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

# FORM 10-Q

**(Mark One)**

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

**For the quarterly period ended June 30, 2016**

**OR**

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

**From the transition period from to .**

**Commission File Number 001-36076**

# FATE THERAPEUTICS, INC.

**(Exact name of registrant as specified in its charter)**

| **Delaware** | **65-1311552** |
|---|---|
| **(State or other jurisdiction of incorporation or organization)** | **(IRS Employer Identification No.)** |
| **3535 General Atomics Court, Suite 200, San Diego, CA** | **92121** |
| **(Address of principal executive offices)** | **(Zip Code)** |

**(858) 875-1800**
**(Registrant's telephone number, including area code)**

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

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

| | | | |
|---|---|---|---|
| Large accelerated filer | ☐ | Accelerated filer | ☒ |
| Non-accelerated filer | ☐ (Do not check if a smaller reporting company) | Smaller reporting company | ☐ |

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

As of August 5, 2016, 28,894,815 shares of the registrant's common stock, par value $0.001 per share, were issued and outstanding.

**FATE THERAPEUTICS, INC.**

**FORM 10-Q**

**TABLE OF CONTENTS**

## PART I. FINANCIAL INFORMATION

**Item 1. Financial Statements**

**Fate Therapeutics, Inc.**

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

| | June 30, 2016 (unaudited) | December 31, 2015 |
|---|---|---|
| **Assets** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 35,870 | $ 64,809 |
| Short-term investments | 10,060 | — |
| Prepaid expenses and other current assets | 1,162 | 843 |
| Total current assets | 47,092 | 65,652 |
| Property and equipment, net | 1,940 | 2,160 |
| Restricted cash | 122 | 122 |
| Other assets | 24 | 24 |
| Total assets | $ 49,178 | $ 67,958 |
| | | |
| **Liabilities and stockholders' equity** | | |
| Current liabilities: | | |
| Accounts payable | $ 1,998 | $ 996 |
| Accrued expenses | 2,355 | 2,439 |
| Current portion of deferred rent | 5 | 54 |
| Current portion of deferred revenue | 2,105 | 2,401 |
| Repurchase liability for unvested equity awards | — | 1 |
| Long-term debt, current portion | 7,864 | 7,550 |
| Total current liabilities | 14,327 | 13,441 |
| Deferred rent | 97 | 58 |
| Deferred revenue | 3,881 | 4,934 |
| Accrued expenses | 1,068 | 799 |
| Long-term debt, net of current portion | 6,676 | 10,688 |
| Commitments and contingencies (Note 5) | | |
| | | |
| Stockholders' equity: | | |
| Preferred stock, $0.001 par value; authorized shares—5,000,000 at June 30, 2016 and December 31, 2015; no shares issued or outstanding | — | — |
| Common stock, $0.001 par value; authorized shares — 150,000,000 at June 30, 2016 and December 31, 2015; issued and outstanding shares — 28,883,144 at June 30, 2016 and 28,716,570 at December 31, 2015 | 29 | 29 |
| Additional paid-in capital | 182,258 | 180,393 |
| Accumulated other comprehensive income | 11 | — |
| Accumulated deficit | (159,169) | (142,384) |
| Total stockholders' equity | 23,129 | 38,038 |
| Total liabilities and stockholders' equity | $ 49,178 | $ 67,958 |

*See accompanying notes.*

**Fate Therapeutics, Inc.**

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

| | Three Months Ended June 30, | | Six Months Ended June 30, | |
|---|---|---|---|---|
| | 2016 | 2015 | 2016 | 2015 |
| | (unaudited) | | | |
| Collaboration revenue | $ 1,027 | $ 329 | $ 2,349 | $ 329 |
| Operating expenses: | | | | |
| Research and development | 6,782 | 4,857 | 13,418 | 9,425 |
| General and administrative | 2,249 | 2,690 | 4,851 | 5,446 |
| Total operating expenses | 9,031 | 7,547 | 18,269 | 14,871 |
| Loss from operations | (8,004) | (7,218) | (15,920) | (14,542) |
| Other income (expense): | | | | |
| Interest income | 31 | 2 | 58 | 3 |
| Interest expense | (435) | (563) | (923) | (1,121) |
| Total other expense, net | (404) | (561) | (865) | (1,118) |
| Net loss | $ (8,408) | $ (7,779) | $ (16,785) | $ (15,660) |
| Other comprehensive income (loss): | | | | |
| Unrealized gain (loss) on available-for-sale securities, net | (3) | — | 11 | — |
| Comprehensive loss | $ (8,411) | $ (7,779) | $ (16,774) | $ (15,660) |
| Net loss per common share, basic and diluted | $ (0.29) | $ (0.33) | $ (0.58) | $ (0.70) |
| Weighted-average common shares used to compute basic and diluted net loss per share | 28,868,464 | 23,920,630 | 28,823,127 | 22,246,832 |

*See accompanying notes.*

**Fate Therapeutics, Inc.**

**Condensed Consolidated Statements of Cash Flows**
**(in thousands)**

| | Six Months Ended June 30, | |
|---|---|---|
| | 2016 | 2015 |
| | (unaudited) | |
| **Operating activities** | | |
| Net loss | $ (16,785) | $ (15,660) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | |
| Depreciation and amortization | 460 | 290 |
| Stock-based compensation | 1,583 | 1,346 |
| Amortization of debt discounts and debt issuance costs | 78 | 87 |
| Amortization of premiums and discounts on investments, net | 117 | — |
| Noncash interest expense | 284 | 329 |
| Deferred rent | (10) | (10) |
| Deferred revenue | (1,349) | 8,091 |
| Changes in operating assets and liabilities: | | |
| Prepaid expenses and other current assets | (302) | 375 |
| Accounts payable and accrued expenses | 1,168 | 856 |
| Net cash used in operating activities | (14,756) | (4,296) |
| **Investing activities** | | |
| Purchase of property and equipment | (384) | (665) |
| Purchases of short-term investments | (16,166) | — |
| Maturities of short-term investments | 6,000 | — |
| Net cash used in investing activities | (10,550) | (665) |
| **Financing activities** | | |
| Issuance of common stock from equity incentive plans, net of issuance costs | 143 | 164 |
| Proceeds from public offering of common stock, net of issuance costs | — | 32,292 |
| Proceeds from sale of common stock to collaboration partner | — | 4,580 |
| Payments on long-term debt | (3,776) | — |
| Net cash provided by (used in) financing activities | (3,633) | 37,036 |
| Net change in cash and cash equivalents | (28,939) | 32,075 |
| Cash and cash equivalents at beginning of the period | 64,809 | 49,101 |
| Cash and cash equivalents at end of the period | $ 35,870 | $ 81,176 |

*See accompanying notes.*

## 1. Organization and Summary of Significant Accounting Policies

### Organization

Fate Therapeutics, Inc. (the "Company") was incorporated in the state of Delaware on April 27, 2007 and has its principal operations in San Diego, California. The Company is a biopharmaceutical company dedicated to the development of programmed cellular immunotherapies for cancer and immune disorders. The Company's cell therapy pipeline is comprised of immuno-oncology programs, including off-the-shelf NK- and T-cell cancer immunotherapies derived from engineered induced pluripotent cells, and immuno-regulatory programs, including hematopoietic cell immunotherapies for protecting the immune system of patients undergoing hematopoietic cell transplantation and for regulating autoimmunity. Its adoptive cell therapy programs are based on the Company's novel *ex vivo* cell programming approach, which it applies to modulate the therapeutic function and direct the fate of immune cells.

As of June 30, 2016, the Company has devoted substantially all of its efforts to product development, raising capital and building infrastructure and has not generated any revenues from any sales of its therapeutic products. To date, the Company's revenues have been derived from collaboration agreements and government grants.

### Follow-on Public Equity Offering

In May 2015, the Company completed a public offering of common stock in which the Company sold 6,900,000 shares of its common stock at an offering price of $5.00 per share. Gross proceeds from the offering were $34.5 million. Total underwriting discounts, commissions, and other cash costs related to the offering were $2.4 million. After giving effect to all such costs, total net proceeds from the offering were $32.1 million.

### Use of Estimates

The Company's consolidated financial statements are prepared in accordance with United States generally accepted accounting principles ("GAAP"). The preparation of the Company's consolidated financial statements requires it to make estimates and assumptions that impact the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities in the Company's consolidated financial statements and accompanying notes. The most significant estimates in the Company's consolidated financial statements relate to accrued expenses. Although these estimates are based on the Company's knowledge of current events and actions it may undertake in the future, actual results may ultimately materially differ from these estimates and assumptions.

### Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its subsidiaries, Fate Therapeutics (Canada), Inc. or "Fate Canada", incorporated in Canada, and Fate Therapeutics Ltd., incorporated in the United Kingdom. To date, the aggregate operations of these subsidiaries have not been significant and all intercompany transactions and balances have been eliminated in consolidation.

### Cash and Cash Equivalents

Cash and cash equivalents include cash in readily available checking and savings accounts, money market accounts and money market funds. The Company considers all highly liquid investments with an original maturity of three months or less from the date of purchase to be cash equivalents.

### Short-Term Investments

Available-for-sale securities are carried at fair value, with the unrealized gains and losses reported in comprehensive income. The amortized cost of available-for-sale debt securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization and accretion is included in interest income. Realized gains and losses and declines in value judged to be other-than-temporary, if any, on available-for-sale securities are included in other income or expense. The cost of securities sold is based on the specific identification method. Interest and dividends on securities classified as available-for-sale are included in interest income.

**Unaudited Interim Financial Information**

The accompanying interim condensed consolidated financial statements are unaudited. These unaudited interim condensed consolidated financial statements have been prepared in accordance with GAAP and following the requirements of the United States Securities and Exchange Commission ("SEC") for interim reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by GAAP can be condensed or omitted. In management's opinion, the unaudited interim financial statements have been prepared on the same basis as the audited financial statements and include all adjustments, which include only normal recurring adjustments, necessary for the fair presentation of the Company's financial position and its results of operations and comprehensive loss and its cash flows for periods presented. These statements do not include all disclosures required by GAAP and should be read in conjunction with the Company's financial statements and accompanying notes for the fiscal year ended December 31, 2015, contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2015 filed by the Company with the SEC on March 3, 2016. The results for the three and six months ended June 30, 2016 are not necessarily indicative of the results expected for the full fiscal year or any other interim period or any future year or period.

**Revenue Recognition**

The Company recognizes revenues when all four of the following criteria are met: (i) persuasive evidence that an agreement exists; (ii) delivery of the products and/or services has occurred; (iii) the selling price is fixed or determinable; and (iv) collectability is reasonably assured.

Revenue arrangements with multiple elements are analyzed to determine whether the elements can be divided into separate units of accounting or whether the elements must be accounted for as a single unit of accounting. The Company divides the elements into separate units of accounting and applies the applicable revenue recognition criteria to each of the elements, if the delivered elements have value to the customer on a stand-alone basis, if the arrangement includes a general right of return relative to the delivered elements, and if the delivery or performance of the undelivered elements is considered probable and substantially within the Company's control.

Revenue is allocated to each element at the inception of the arrangement using the relative selling price method that is based on a three-tier hierarchy. The relative selling price method requires that the estimated selling price for each element be based on vendor-specific objective evidence ("VSOE") of fair value, which represents the price charged for each element when it is sold separately or, for an element not yet being sold separately, the price established by management. When VSOE of fair value is not available, third-party evidence ("TPE") of fair value is acceptable, or a best estimate of selling price is used if neither VSOE nor TPE is available. A best estimate of selling price should be consistent with the objective of determining the price at which the Company would transact if the element were sold regularly on a stand-alone basis and should also take into account market conditions and company-specific factors.

Revenue arrangements with multiple elements may include license fees, research and development payments, milestone payments, other contingent payments, and royalties on any product sales derived from collaborations. The Company recognizes nonrefundable license fees with stand-alone value as revenue at the time that the Company has satisfied all performance obligations, and recognizes license fees without stand-alone value as revenue in combination with any undelivered performance obligations. The Company recognizes a research and development payment as revenue over the term of the collaboration agreement as contracted amounts are earned, or reimbursable costs are incurred, under the agreement, where contracted amounts are considered to be earned in relative proportion to the performance required under the applicable agreement. The Company recognizes a milestone payment, which is contingent upon the achievement of a milestone in its entirety, as revenue in the period in which the milestone is achieved only if the milestone meets all criteria to be considered substantive. These criteria include the following: (i) the consideration being earned should be commensurate with either the Company's performance to achieve the milestone or the enhancement of the value of the item delivered as a result of a specific outcome resulting from the Company's performance to achieve the milestone; (ii) the consideration being earned should relate solely to past performance; (iii) the consideration being earned should be reasonable relative to all deliverables and payment terms in the arrangement; and (iv) the milestone should be considered in its entirety and cannot be bifurcated into substantive and nonsubstantive components. Any amounts received pursuant to revenue arrangements with multiple elements prior to satisfying the Company's revenue recognition criteria are recorded as deferred revenue on the Company's consolidated balance sheets.

Revenue from government grants is recorded when reimbursable expenses are incurred under the grant in accordance with the terms of the grant award.

**Stock-Based Compensation**

Stock-based compensation expense represents the cost of the grant date fair value of employee stock option and restricted stock unit grants recognized over the requisite service period of the awards (usually the vesting period) on a straight-line basis, net of

estimated forfeitures. For stock option grants for which vesting is subject to performance-based milestones, the expense is recorded over the remaining service period after the point when the achievement of the milestone is probable or the performance condition has been achieved. For stock option grants for which vesting is subject to both performance-based milestones and market conditions, expense is recorded over the derived service period after the point when the achievement of the performance-based milestone is probable or the performance condition has been achieved. The Company estimates the fair value of stock option grants using the Black-Scholes option pricing model, with the exception of option grants for which vesting is subject to both performance-based milestones and market conditions, which are valued using a lattice-based model. The fair value of restricted stock units is based on the closing price of the Company's common stock as reported on The NASDAQ Global Market on the date of grant.

The Company accounts for stock options and restricted stock awards to non-employees using the fair value approach. Stock options and restricted stock awards to non-employees are subject to periodic revaluation over their vesting terms. For stock option grants for which vesting is subject to performance-based milestones, the expense is recorded over the remaining service period after the point when the performance condition is determined to be probable of achievement or when it has been achieved.

**Comprehensive Loss**

Comprehensive loss is defined as a change in equity during a period from transactions and other events and circumstances from non-owner sources. Other comprehensive income included unrealized gains and losses on available-for-sale securities, which was the only difference between net loss and comprehensive loss for the applicable period.

**Net Loss per Common Share**

Basic net loss per common share is calculated by dividing the net loss by the weighted-average number of shares of common stock outstanding for the period, without consideration for common stock equivalents. Excluded from the weighted-average number of shares outstanding are shares which have been issued upon the early exercise of stock options and are subject to future vesting totaling 51,055 shares for the three months ended June 30, 2015 and 6,568 shares and 54,754 shares for the six months ended June 30, 2016 and 2015, respectively. Diluted net loss per share is calculated by dividing the net loss by the weighted-average number of common stock equivalents outstanding for the period determined using the treasury-stock method. Dilutive common stock equivalents for the periods presented include warrants for the purchase of common stock, and common stock options and restricted stock units outstanding under the Company's stock option and incentive plan. For all periods presented, there is no difference in the number of shares used to calculate basic and diluted shares outstanding due to the Company's net loss position.

For the three and six months ended June 30, 2016, the Company realized a net loss of $8.4 million and $16.8 million, respectively. Shares of potentially dilutive securities totaled 4.7 million for the three and six months ended June 30, 2016, including an aggregate of 4.5 million shares of common stock issuable upon the exercise of outstanding stock options and the settlement of outstanding restricted stock units.

For the three and six months ended June 30, 2015, the Company realized a net loss of $7.8 million and $15.7 million, respectively. Shares of potentially dilutive securities totaled 3.0 million for the three and six months ended June 30, 2015, including options to purchase 2.9 million shares of common stock.

**Recent Accounting Pronouncements**

In March 2016, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update No. 2016-09 (ASU 2016-09). ASU 2016-09 simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. ASU 2016-09 is effective for fiscal periods beginning after December 15, 2016, with early adoption permitted. The Company believes the ultimate adoption of this guidance will not have a material impact on its Consolidated Financial Statements.

In February 2016, the FASB issued ASU 2016-02 which requires an entity to recognize assets and liabilities arising from a lease for both financing and operating leases, along with additional qualitative and quantitative disclosures. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, with early adoption permitted. The Company is currently evaluating the effect this standard will have on its Consolidated Financial Statements.

In November 2015, the FASB issued ASU 2015-17, which requires that all deferred tax assets and liabilities be classified as noncurrent on the balance sheet, instead of separating deferred taxes into current and noncurrent amounts. The update is effective for financial statements issued for fiscal years beginning after December 15, 2016. As early adoption of this amendment is permitted, the Company has adopted the update prospectively during the year ended December 31, 2015. The adoption of this guidance did not have a material impact on the Company's Consolidated Financial Statements.

In August 2014, the FASB issued ASU 2014-15, which defined management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related disclosure. ASU 2014-15 defined the term substantial doubt and requires an assessment for a period of one year after the date of the issuance of the financial statements. It requires certain disclosures when substantial doubt is alleviated as a result of consideration of management's plans and requires an express statement and other disclosures when substantial doubt is not alleviated. The guidance becomes effective for reporting periods ending after December 15, 2016, and for annual periods and interim periods thereafter, with early adoption permitted. The Company does not believe that the adoption of this guidance will have a material impact on its Consolidated Financial Statements.

In May 2014, the FASB issued ASU 2014-09, which created a single, principle-based revenue recognition model that will supersede and replace nearly all existing U.S. GAAP revenue recognition guidance. Entities will recognize revenue in a manner that depicts the transfer of goods or services to customers at an amount that reflects the consideration to which the entity expects to be entitled to receive in exchange for those goods or services. The model provides that entities follow five steps: (i) identify the contract with a customer, (ii) identify the performance obligations in the contract, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations, and (v) recognize revenue. For public business entities, the guidance becomes effective for annual reporting periods beginning after December 15, 2017, and interim periods therein. The Company is currently evaluating the impact the adoption of this guidance will have on its Consolidated Financial Statements.

**2. Juno Collaboration and License Agreement**

On May 4, 2015, the Company entered into a strategic research collaboration and license agreement (the "Agreement") with Juno Therapeutics, Inc. ("Juno") to screen for and identify small molecules that enhance the therapeutic properties of Juno's genetically-engineered T-cell immunotherapies. Pursuant to the terms of the Agreement, Juno paid the Company a non-refundable upfront payment of $5.0 million and purchased 1,000,000 shares of the Company's common stock at a price of $8.00 per share.

Additionally, Juno agreed to fund all of the Company's collaboration research activities for an initial four-year research term beginning on the effective date of the Agreement, with minimum annual research payments of $2.0 million to the Company. Juno has the option to extend the exclusive research term for an additional two years beyond the initial four-year term, subject to the payment of an extension fee of $3.0 million and the continued funding of the Company's activities under the collaboration during the extended term, with minimum annual research payments of $4.0 million to the Company during the two-year extension period. Upon exercise of the research term extension, the Company has the option to require Juno to purchase up to $10.0 million of the Company's common stock at a premium equal to 120% of the then thirty-day trailing volume weighted average trading price of the Company's common stock.

The Company applied Accounting Standards Codification ("ASC") 605-25, *Revenue Recognition — Multiple Element Arrangements,* to evaluate the appropriate accounting for the Agreement. In accordance with this guidance, the Company assessed the potential deliverables, including an exclusive license granted by the Company to Juno for certain intellectual property and research services to be performed by the Company, and determined that the deliverables did not have stand-alone value. The Company determined that the license deliverable granted under the Agreement does not have standalone value given the highly specific nature of the small molecules to be identified for use with Juno's genetically-engineered T-cell immunotherapies. The Company concluded that there is one single unit of accounting, and the arrangement consideration will be recognized in the same manner as the final deliverable, which is the research services. As such, the upfront payment of $5.0 million was recorded as deferred revenue and is being recognized over the initial four-year research term under the Agreement. With respect to the $8.0 million payment for the Company's common stock, the Company determined that the common stock purchase price of $8.00 per share represented a premium of $3.40 per share. This premium represents arrangement consideration and therefore the aggregate premium of $3.4 million was recorded as deferred revenue and is being recorded as revenue ratably over the initial four-year research term. The remaining $4.6 million consideration that represents the purchase of common stock was recorded as the issuance of common stock in shareholders' equity.

Pursuant to the collaboration's research plan under the Agreement, the Company is responsible for screening and identifying small molecule modulators of immunological cells, while Juno will be responsible for the development and commercialization of engineered T-cell immunotherapies incorporating the Company's modulators. As the Company is principally responsible for the performance of the research services under the Agreement, revenue is recognized on a gross basis for such services when earned. Billings for research services will be recognized as deferred revenue until earned.

Total revenue recognized under the Agreement for the three and six months ended June 30, 2016 was $1.0 million and $2.3 million, respectively. Total revenue recognized under the Agreement for each of the three and six months ended June 30, 2015 was $0.3 million. As of June 30, 2016, aggregate deferred revenue related to the Agreement was $6.0 million.

Under the Agreement, the Company has granted Juno an exclusive worldwide license to certain of its intellectual property, including its intellectual property arising under the collaboration, to make, use, sell and otherwise exploit genetically-engineered T-cell immunotherapies using or incorporating small molecule modulators directed against certain designated tumor-associated antigen targets, subject to the selection of a target by Juno. The Company has retained exclusive rights to such intellectual property, including its intellectual property arising under the collaboration, for all other purposes, including its use outside of those targets selected by Juno.

The Company is eligible under the Agreement to receive selection fees for each tumor-associated antigen target selected by Juno and bonus selection fees based on the aggregate number of tumor-associated antigen targets selected by Juno. In accordance with ASC 605-28, *Revenue Recognition — Milestone Method,* the Company determined that such contingent payments do not constitute milestone payments and will not be accounted for under the milestone method of revenue recognition. The events leading to these payments do not meet the definition of a milestone under ASU 2010-17 because the achievement of these events depends on Juno's performance and selections. Any revenue from these contingent selection payments would be subject to an allocation of arrangement consideration and would be recognized over any remaining period of performance obligation, if any, relating to the collaboration.

In connection with each Juno therapy that uses or incorporates the Company's small molecule modulators, Juno has agreed to pay the Company non-refundable, non-creditable milestone payments totaling up to approximately $51.0 million in the aggregate per therapy upon the achievement of various clinical, regulatory and commercial milestones. Additionally, in connection with the third Juno therapy and the fifth Juno therapy that uses or incorporates the Company's small molecule modulators, Juno has agreed to pay the Company additional non-refundable, non-creditable bonus milestone payments totaling up to approximately $116.0 million and $137.5 million, respectively, in the aggregate, per therapy upon the achievement of various clinical, regulatory, and commercial milestones. In accordance with ASU 2010-17, the Company determined that these contingent payments meet the definition of a milestone under ASU 2010-17, and that the milestones are substantive given that the milestones are commensurate with the Company's performance, relate solely to the Company's past performance, and are reasonable relative to other deliverables and payments under the Agreement. Accordingly, the milestones under the Agreement will be accounted for as revenue on the achievement date, if any.

Beginning on the date of the first commercial sale (in each country) for each Juno therapy that uses or incorporates the Company's small molecule modulators, and continuing until the later of: i) the expiration of the last valid patent claim, ii) ten years after such first commercial sale, or iii) the expiration of all data and other regulatory exclusivity periods afforded each therapy, Juno has agreed to pay the Company royalties in the low single-digits on net sales of each Juno therapy that uses or incorporates the Company's small molecule modulators.

The Agreement will end on the date that no further payments are due under the Agreement.

## 3. Short-term Investments

During the six months ended June 30, 2016, the Company invested excess cash in United States treasuries with maturities ranging from six to twelve months from the purchase date. These debt securities are classified as short-term investments in the accompanying consolidated balance sheets and are accounted for as available-for-sale securities.

The following table summarizes the Company's short-term investments accounted for as available-for-sale securities as of June 30, 2016 (no such investments were owned as of December 31, 2015) (in thousands):

| | Maturity (in years) | Amortized Cost | Unrealized Losses | Unrealized Gains | Estimated Fair Value |
|---|---|---|---|---|---|
| **June 30, 2016:** | | | | | |
| U.S. Treasury debt securities | 1 or less | 10,049 | — | 11 | 10,060 |
| Total | | $ 10,049 | $ — | $ 11 | $ 10,060 |

The Company reviewed its investment holdings as of June 30, 2016 and determined there were no unrealized losses, and thus there were no other-than-temporary unrealized losses. During the three and six months ended June 30, 2016, the Company did not recognize any impairment or gains or losses on sales of available-for-sale securities.

## 4. Fair Value Measurements

The carrying amounts of accounts payable and accrued liabilities are considered to be representative of their respective fair values because of the short-term nature of those instruments. Based on the borrowing rates available to the Company for loans with

similar terms, which is considered a Level 2 input as described below, the Company believes that the fair value of long-term debt approximates its carrying value.

The accounting guidance defines fair value, establishes a consistent framework for measuring fair value and expands disclosure for each major asset and liability category measured at fair value on either a recurring or nonrecurring basis. Fair value is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, the accounting guidance establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

Level 1: Observable inputs such as quoted prices in active markets;

Level 2: Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and

Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

Financial assets measured at fair value on a recurring basis consist of the Company's cash equivalents and short-term investments. Cash equivalents primarily consisted of money market funds and short-term investments consisted of U.S. treasuries. The following table presents the Company's assets which were measured at fair value on a recurring basis as of June 30, 2016 and December 31, 2015 (in thousands):

| | | Fair Value Measurements at Reporting Date Using | | |
|---|---|---|---|---|
| | Total | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
| As of June 30, 2016: | | | | |
| Cash equivalents | $ 25,199 | $ 25,199 | $ — | $ — |
| U.S. Treasury debt securities | 10,060 | 10,060 | — | — |
| Total assets | $ 35,259 | $ 35,259 | $ — | $ — |
| | | | | |
| As of December 31, 2015: | | | | |
| Cash equivalents | $ 35,257 | $ 35,257 | $ — | $ — |
| Total assets | $ 35,257 | $ 35,257 | $ — | $ — |

The Company obtains pricing information from quoted market prices from our investment manager and generally determines the fair value of investment securities using standard observable inputs, including reported trades, broker/dealer quotes, and bids and/or offers.

None of the Company's non-financial assets or liabilities is recorded at fair value on a non-recurring basis. No transfers between levels have occurred during the periods presented.

As of June 30, 2016 and December 31, 2015, the Company had no material liabilities measured at fair value on a recurring basis.

## 5. Accrued Expenses, Long-Term Debt, Commitments and Contingencies

### Accrued Expenses

Current accrued expenses consist of the following (in thousands):

| | June 30, 2016 | December 31, 2015 |
|---|---|---|
| Accrued payroll and other employee benefits | $ 1,283 | $ 993 |
| Accrued clinical trial costs | 409 | 446 |
| Accrued other | 663 | 1,000 |
| Current accrued expenses | $ 2,355 | $ 2,439 |

During the six months ended June 30, 2016, the Company issued 37,641 shares of its common stock to certain senior executives of the Company as consideration for a portion of their 2015 annual bonuses. All related amounts were accrued for as liabilities as of December 31, 2015. Future senior executive bonus amounts, timing, and method of payment are at the sole discretion of the Board of Directors of the Company. As such, all relevant bonus estimates are accrued for as liabilities as of June 30, 2016.

Long-term accrued expenses consist primarily of accruals for the final payment fees associated with our long-term debt.

**Long-Term Debt**

Long-term debt and unamortized discount balances are as follows (in thousands):

| | June 30, 2016 | December 31, 2015 |
|---|---|---|
| Long-term debt | $ 14,678 | $ 18,454 |
| Less debt issuance costs and discount, net of current portion | (33) | (77) |
| Long-term debt, net of long-term portion of debt issuance costs and discount | 14,645 | 18,377 |
| Less current portion of long-term debt | (7,969) | (7,689) |
| Long-term debt, net | $ 6,676 | $ 10,688 |
| Current portion of long-term debt | $ 7,969 | $ 7,689 |
| Less current portion of debt issuance costs and discount | (105) | (139) |
| Current portion of long-term debt, net | $ 7,864 | $ 7,550 |

On July 30, 2014, the Company entered into an Amended and Restated Loan and Security Agreement (the "Restated LSA") with Silicon Valley Bank (the "Bank"), collateralized by substantially all of the Company's assets, excluding certain intellectual property. The Restated LSA amends and restates the Loan and Security Agreement, dated as of January 5, 2009, as amended, by and between the Company and the Bank (the "Loan Agreement"). Pursuant to the Restated LSA, the Bank agreed to make loans to the Company in an aggregate principal amount of up to $20.0 million, comprised of (i) a $10.0 million term loan, funded at the closing date (the "Term A Loan") and (ii) subject to the achievement of a specified clinical milestone relating to the Company's Phase 2 clinical trial of ProHema, additional term loans totaling up to $10.0 million in the aggregate, which were available until December 31, 2014 (each, a "Term B Loan"). On December 24, 2014, the Company elected to draw on the full $10.0 million under a Term B Loan.

The Term A Loan and the Term B Loan mature on January 1, 2018 and June 1, 2018, respectively and bear interest at a fixed annual rate of 6.94% and 7.07%, respectively. Interest became payable in cash on a monthly basis beginning the first day of each month following the month in which the funding date of each loan occurred. The Company is required to make a monthly payment of interest only during the first twelve months following the funding date of each loan, and thereafter is required to repay the principal and interest under each loan in thirty equal monthly installments based on a thirty-month amortization schedule. During the three and six months ended June 30, 2016 the Company made aggregate principal payments totaling $1.9 million and $3.8 million, respectively, on the Term A Loan and Term B Loan.

The Company is required to make a final payment fee of 7.5%, equaling $0.8 million, of the funded amount for each of the Term A Loan and Term B Loan on the respective maturity dates. The final payment fees are accrued as interest expense over the terms of the loans and recorded in long-term accrued expenses.

A portion of the proceeds from the Term A Loan were used to repay loans outstanding under the Loan Agreement and to pay for transaction fees related to the Restated LSA, including a commitment fee of $0.4 million paid by the Company to the Bank. Net proceeds from the Term A Loan, after repayment of loans outstanding under the Loan Agreement and transaction fees, were $8.8 million. The Company determined that the repayment of the Loan Agreement was a debt extinguishment, and accounted for the Term A Loan at fair value as of the issuance date accordingly.

Proceeds from the Term B Loan were $10.0 million. In connection with the funding of the Term B Loan, the Company issued the Bank and one of its affiliates fully-exercisable warrants to purchase an aggregate of 98,039 shares of the Company's common stock (the "Warrants") at an exercise price of $4.08 per share. The Warrants expire in December 2021. The aggregate fair value of the Warrants was determined to be $0.4 million using the Black-Scholes option pricing model and was recorded as a debt discount on the Term B Loan and is amortized to interest expense over the term of the Term B Loan using the effective interest method.

For the three and six months ended June 30, 2016, the Company recorded $0.4 million and $0.9 million, respectively, in aggregate interest expense related to the Term A and Term B Loans. For the three and six months ended June 30, 2015, the Company recorded $0.6 million and $1.1 million, respectively, in aggregate interest expense related to the Term A and Term B Loans.

Warrants to purchase 36,074 shares of the Company's common stock at a weighted average exercise price of $7.21 per share issued in connection with the Loan Agreement remain outstanding as of June 30, 2016 with 5,305 and 30,769 of such warrants having expiration dates in January 2019 and August 2021, respectively.

**Facility Leases**

The Company leases certain office and laboratory space from a stockholder of the Company under a non-cancelable operating lease. In June 2016, the Company amended the operating lease, extending the term of the lease through June 2023 and agreeing to lease additional space comprising approximately 24,000 square feet in the same building as its existing space. The lease is subject to additional charges for common area maintenance and other costs. In connection with the lease, the Company entered into a cash-collateralized irrevocable standby letter of credit in the amount of $0.1 million. As of June 30, 2016, future minimum payments under the operating lease are $14.4 million.

In January 2015, the Company entered into a sublease for additional laboratory space. The sublease is accounted for as an operating lease and expires in September 2017. Under the sublease, total future minimum payments as of June 30, 2016 are $0.4 million.

## 6. Stockholders' Equity

Stock option activity under all equity and stock option plans is summarized as follows:

| | Number of Options | Weighted-Average Price |
|---|---|---|
| Balance at December 31, 2015 | 2,587,474 | $ 4.59 |
| Granted | 2,193,800 | 2.64 |
| Canceled | (639,873) | 3.74 |
| Exercised | (119,843) | 1.41 |
| Balance at June 30, 2016 | 4,021,558 | $ 3.76 |

The allocation of stock-based compensation for all stock awards is as follows (in thousands):

| | Three Months Ended June 30, | | Six Months Ended June 30, | |
|---|---|---|---|---|
| | 2016 | 2015 | 2016 | 2015 |
| Research and development | $ 450 | $ 416 | $ 892 | $ 720 |
| General and administrative | 336 | 322 | 691 | 626 |
| | $ 786 | $ 738 | $ 1,583 | $ 1,346 |

As of June 30, 2016, the outstanding options included 110,400 performance-based options for which the achievement of the performance-based vesting provisions was determined not to be probable. The aggregate grant date fair value of these unvested options at June 30, 2016 was $0.2 million.

As of June 30, 2016, the unrecognized compensation cost related to outstanding options (excluding those with performance-based conditions) was $6.1 million and is expected to be recognized as expense over a weighted average period of approximately 3.0 years.

As of June 30, 2016, 0.5 million restricted stock units were outstanding, and the unrecognized compensation cost related to such grants was $2.1 million which is expected to be recognized as expense over approximately 3.3 years. No restricted stock units were granted, canceled, or vested during the six months ended June 30, 2016.

The weighted-average assumptions used in the Black-Scholes option pricing model to determine the fair value of the employee stock option grants were as follows:

| | Six Months Ended June 30, | |
|---|---|---|
| | 2016 | 2015 |
| Risk-free interest rate | 1.6% | 1.6% |
| Expected volatility | 79.8% | 82.2% |
| Expected term (in years) | 6.0 | 6.0 |
| Expected dividend yield | 0.0% | 0.0% |

The weighted-average assumptions used in the Black-Scholes option pricing model to determine the fair value of the non-employee stock option grants were as follows:

| | Six Months Ended June 30, | |
|---|---|---|
| | 2016 | 2015 |
| Risk-free interest rate | 1.4% | 0.5% |
| Expected volatility | 81.1% | 61.9% |
| Remaining contractual term (in years) | 6.7 | 1.6 |
| Expected dividend yield | 0.0% | 0.0% |

**7. Subsequent Events**

On August 6, 2016, the Company entered into a Securities Purchase Agreement (the "Purchase Agreement") for a private placement of its common stock with a group of institutional investors (the "Purchasers"), pursuant to which the Purchasers have agreed to purchase 5,250,000 shares of the Company's common stock, par value $0.001 per share (the "Shares"), at a price of $1.96 per share, for an aggregate purchase price of approximately $10.3 million. The closing of the purchase and sale of the Shares is expected to occur on or before August 10, 2016, subject to customary closing conditions. The Company also entered into a registration rights agreement with the Purchasers requiring the Company to register the resale of the Shares. The Company is required to prepare and file a registration statement with the Securities and Exchange Commission (the "SEC") within 90 days of the closing of the transaction, and to use commercially reasonable efforts to have the registration statement declared effective within 120 days if there is no review by the SEC, and within 150 days in the event of such review.

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

*The following discussion and analysis should be read in conjunction with our financial statements and accompanying notes included in this Quarterly Report on Form 10-Q and the financial statements and accompanying notes thereto for the fiscal year ended December 31, 2015 and the related Management's Discussion and Analysis of Financial Condition and Results of Operations, which are contained in our Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 3, 2016.*

*This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Such forward-looking statements, which represent our intent, belief, or current expectations, involve risks and uncertainties and other factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. In some cases you can identify forward-looking statements by terms such as "may," "will," "expect," "anticipate," "estimate," "intend," "plan," "predict," "potential," "believe," "should" and similar expressions. Factors that could cause or contribute to differences in results include, but are not limited to, those set forth under "Risk Factors" under Item 1A of Part II below. Except as required by law, we undertake no obligation to update these forward-looking statements to reflect events or circumstances after the date of this report or to reflect actual outcomes.*

**Overview**

We are a clinical-stage biopharmaceutical company dedicated to the development of programmed cellular immunotherapies for cancer and immune disorders. We are developing our product candidates based on a simple notion: we believe that better cell

therapies start with better cells. Our therapeutic approach, which we refer to as cell programming, utilizes pharmacologic modulators, such as small molecules, to enhance the biological properties and therapeutic function of cells *ex vivo*, or outside the body. These programmed cells are then adoptively transferred to patients as therapies. We believe that this highly-differentiated therapeutic paradigm – systematically and precisely programming the biological properties and therapeutic function of cells *ex vivo* prior to adoptive transfer – is an elegant, cost-effective and scalable approach for maximizing the safety and efficacy of cell therapies. Utilizing our cell programming approach, we program immune cells, such as CD34+ cells, Natural Killer (NK) cells and T cells.

We are advancing a pipeline of programmed cellular immunotherapies, including both donor-sourced and off-the-shelf, pluripotent cell-derived immune cell therapies, in the fields of immuno-oncology and immuno-regulation. Our clinical program is ProTmune™, a programmed immuno-regulatory cell therapy consisting of donor-sourced mobilized peripheral blood cells which have been modulated using two small molecules, for the prevention of acute graft-versus-host disease (GvHD) and cytomegalovirus (CMV) infection in immunocompromised patients undergoing allogeneic hematopoietic cell transplantation (HCT). Our preclinical programs include NK- and T-cell cancer immunotherapies, including off-the-shelf therapies derived from engineered induced pluripotent cells (denoted as an iNK Cell Therapy and an iT Cell Therapy, respectively), and a CD34+ cell immuno-regulatory therapy to regulate aberrant auto-reactive effector cells for autoimmune diseases.

We have also entered into a research collaboration and license agreement with Juno Therapeutics, Inc. to identify and apply small molecule modulators to enhance the therapeutic function of genetically-engineered CAR (chimeric antigen receptor) T-cell and TCR (T-cell receptor) immunotherapies.

We were incorporated in Delaware in 2007, and are headquartered in San Diego, CA. Since our inception in 2007, we have devoted substantially all of our resources to our cell programming approach and the research and development of our product candidates, the creation, licensing and protection of related intellectual property and the provision of general and administrative support for these activities. To date, we have funded our operations primarily through the public sale of common stock, the private placement of preferred stock and convertible notes, commercial bank debt and revenues from collaboration activities and grants.

We have never been profitable and have incurred net losses in each year since inception. Substantially all of our net losses resulted from costs incurred in connection with our research and development programs and from general and administrative costs associated with our operations. We expect to continue to incur operating losses for at least the next several years. Our net losses may fluctuate significantly from quarter to quarter and year to year. We expect our expenses will increase substantially in connection with our ongoing and planned activities as we:

- conduct our Phase 1/2 clinical trial of ProTmune and initiate and conduct any additional clinical trials;
- continue our research and development activities, including under our collaboration agreements;
- manufacture preclinical study and clinical trial materials;
- maintain, prosecute, protect, expand and enforce our intellectual property portfolio;
- engage with regulatory authorities for the development of, and seek regulatory approvals for, our product candidates;
- hire additional clinical, regulatory, quality control and technical personnel to advance our product candidates;
- hire additional scientific personnel to advance our research and development efforts; and
- hire general and administrative personnel to continue operating as a public company and support our operations.

We do not expect to generate any revenues from sales of any therapeutic products unless and until we successfully complete development and obtain regulatory approval for one or more of our product candidates, which we expect will take a number of years. If we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution. Accordingly, we will seek to fund our operations through public or private equity or debt financings or other sources. However, we may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. Our failure to raise capital or enter into such other arrangements when needed would have a negative effect on our financial condition and ability to develop our product candidates.

**Financial Operations Overview**

We conduct substantially all of our activities through Fate Therapeutics, Inc., a Delaware corporation, at our facilities in San Diego, California. Fate Therapeutics, Inc. owns 100% of the voting shares of Fate Therapeutics (Canada) Inc., or Fate Canada, that were outstanding at June 30, 2016 and directs all of its operational activities, which are insignificant. The following information is presented on a consolidated basis to include the accounts of Fate Therapeutics, Inc. and Fate Canada. All intercompany transactions and balances are eliminated in consolidation.

***Revenue***

To date, we have not generated any revenues from therapeutic product sales. Our revenues have been derived from collaboration agreements and government grants.

On May 4, 2015, we entered into a strategic research collaboration and license agreement (the "Agreement") with Juno Therapeutics, Inc. ("Juno") to screen for and identify small molecule modulators that enhance the therapeutic properties of Juno's genetically-engineered T-cell immunotherapies. In connection with the Agreement, we received an upfront, non-refundable payment of $5.0 million and $8.0 million for the purchase of 1,000,000 shares of our common stock at $8.00 per share. Based on the upfront payment and the premium paid on the share purchase, we recorded $8.4 million of deferred revenue to be recognized ratably as revenue over the initial four-year research term. Additionally, we will receive a minimum of $2.0 million in research funding annually during the initial four-year term. We account for the research funding as revenue using the gross method and record such amounts received from Juno as revenue when earned.

Per the Agreement, Juno has the option to extend the research term an additional two years subject to payment of a one-time, non-refundable extension fee of $3.0 million and minimum research funding of $4.0 million per year during the extended two-year research term. Additionally, if Juno elects to exercise its extension option, we then have the option to require Juno to purchase up to $10.0 million of our common stock at a premium equal to 120% of the then thirty-day trailing volume weighted average trading price.

Additionally, we are eligible to receive certain contingent payments under the Agreement, including selection fees for each tumor-associated antigen target selected by Juno and clinical, regulatory, and commercial milestones, and royalties on commercial sales, in connection with each Juno immunotherapy that uses or incorporates our small molecule modulators. To date, no such payments have been received by us.

In connection with the Agreement, we have recognized $1.0 million and $2.3 million, respectively during the three and six months ended June 30, 2016, as collaboration revenue in the consolidated statements of operations. Total revenue recognized under the Agreement for each of the three and six months ended June 30, 2015 was $0.3 million. As of June 30, 2016, aggregate deferred revenue related to the Agreement was $6.0 million.

***Research and Development Expenses***

Research and development expenses consist of costs associated with the research and development of our product candidates and cell programming technology, and the performance of research activities under our collaboration agreements. These costs are expensed as incurred and include:

- salaries and employee-related costs, including stock-based compensation;
- costs associated with conducting our preclinical, clinical and regulatory activities, including fees paid to third-party professional consultants and service providers;
- costs incurred under clinical trial agreements with investigative sites;
- costs incurred under our collaboration agreements;
- costs for laboratory supplies;
- costs to acquire, develop and manufacture preclinical study and clinical trial materials; and
- facilities, depreciation and other expenses including allocated expenses for rent and maintenance of facilities.

We plan to increase our current level of research and development expenses for the foreseeable future as we continue the development of our product candidates and cell programming technology, and as we perform research activities under our collaboration agreement with Juno. Our current planned research and development activities over the next twelve months consist primarily of the following:

- initiating and conducting our clinical trials of ProTmune to examine its safety and efficacy in adult patients with hematologic malignancies undergoing allogeneic HCT;
- conducting preclinical activities to investigate the therapeutic potential of our immuno-oncology programs, including our donor-sourced, adaptive NK-cell cancer immunotherapy and our off-the-shelf NK- and T-cell cancer immunotherapies derived from engineered induced pluripotent cells;

- conducting preclinical activities to investigate the therapeutic potential of our immuno-regulatory programs, including a hematopoietic cell therapy for regulating auto-reactive T cells of patients with autoimmune disorders; and
- performing research activities under the agreement with Juno.

Due to the inherently unpredictable nature of preclinical and clinical development, and given our novel therapeutic approach and the current stage of development of our product candidates, we cannot determine and are unable to estimate with certainty the timelines we will require and the costs we will incur for the development of our product candidates, including ProTmune. Clinical and preclinical development timelines and costs, and the potential of development success, can differ materially from expectations. In addition, we cannot forecast which product candidates may be subject to future collaborations, when such arrangements will be secured, if at all, and to what degree such arrangements would affect our development plans and capital requirements.

***General and Administrative Expenses***

General and administrative expenses consist primarily of salaries and employee-related costs, including stock-based compensation, for our employees in executive, operational, finance and human resource functions; professional fees for accounting, legal and tax services; costs for obtaining, prosecuting and maintaining our intellectual property; and other costs and fees, including director and officer insurance premiums, to support our operations as a public company. We anticipate that our general and administrative expenses will increase in the future as we increase our research and development activities, maintain compliance with exchange listing and SEC requirements and continue to operate as a public company.

***Other Income (Expense), Net***

Other income (expense) consists primarily of interest income earned on cash and cash equivalents, interest income from short-term investments (including the amortization of discounts and premiums), and interest expense on amounts outstanding under our credit facilities.

**Critical Accounting Policies and Significant Judgments and Estimates**

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, and expenses and the disclosure of contingent assets and liabilities in our financial statements. On an ongoing basis, we evaluate our estimates and judgments, including those related to accrued expenses and stock-based compensation. We base our estimates on historical experience, known trends and events, and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

The estimates and judgments involved in the accounting policies as described in Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2015 continue to be our critical accounting policies. There were no material changes to our critical accounting policies and estimates during the six months ended June 30, 2016.

See Note 1 to the Condensed Consolidated Financial Statements for information related to recent accounting pronouncements.

**Results of Operations**

***Comparison of the Three Months Ended June 30, 2016 and 2015***

The following table summarizes the results of our operations for the three months ended June 30, 2016 and 2015 (in thousands):

| | Three Months Ended June 30, | | Increase/ |
|---|---|---|---|
| | 2016 | 2015 | (Decrease) |
| Collaboration revenue | $ 1,027 | $ 329 | $ 698 |
| Research and development expense | 6,782 | 4,857 | 1,925 |
| General and administrative expense | 2,249 | 2,690 | (441) |
| Total other expense, net | 404 | 561 | (157) |

*Revenue.* During the three months ended June 30, 2016 and 2015, we recognized revenue of $1.0 million and $0.3 million respectively, under the Agreement with Juno, which we entered into in May 2015. The increase was primarily driven by an increase in our research activities.

*Research and development expenses.* Research and development expenses were $6.8 million for the three months ended June 30, 2016, compared to $4.9 million for the three months ended June 30, 2015. The increase in research and development expenses primarily includes the following changes:

- $0.9 million increase in third-party professional consultant and service provider expenses relating to the clinical development of our product candidates and the conduct of our research activities;
- $0.6 million increase in compensation and benefits expense, including employee stock-based compensation expense, relating to an increase in employee headcount to support our research activities, including our activities under our collaboration with Juno; and
- $0.4 million increase in expenditures for laboratory equipment and supplies relating of our research activities, including our activities under our collaboration with Juno.

*General and administrative expenses.* General and administrative expenses were $2.2 million for the three months ended June 30, 2016, compared to $2.7 million for the three months ended June 30, 2015. The decrease in general and administrative expenses primarily relates to a $0.4 million decrease in intellectual property-related expenses.

*Other expense, net.* Other expense, net was $0.4 million for the three months ended June 30, 2016 and $0.6 million for the three months ended June 30, 2015. Other expense, net for each period consisted primarily of interest expense relating to our term loans with Silicon Valley Bank.

***Comparison of the Six Months Ended June 30, 2016 and 2015***

The following table summarizes the results of our operations for the six months ended June 30, 2016 and 2015 (in thousands):

| | Six Months Ended June 30, | | Increase/ (Decrease) |
|---|---|---|---|
| | 2016 | 2015 | |
| Collaboration revenue | $ 2,349 | $ 329 | $ 2,020 |
| Research and development expense | 13,418 | 9,425 | 3,993 |
| General and administrative expense | 4,851 | 5,446 | (595) |
| Total other expense, net | 865 | 1,118 | (253) |

*Revenue.* During the six months ended June 30, 2016 and 2015, we recognized revenue of $2.3 million and $0.3 million respectively, under the Agreement with Juno, which we entered into in May 2015. The increase was driven by an increase in our research activities.

*Research and development expenses.* Research and development expenses were $13.4 million for the six months ended June 30, 2016, compared to $9.4 million for the six months ended June 30, 2015. The increase in research and development expenses primarily includes the following changes:

- $1.3 million increase in third-party professional consultant and service provider expenses relating to the clinical development of our product candidates and the conduct of our research activities;
- $1.2 million increase in compensation and benefits expense, including employee stock-based compensation expense, relating to an increase in employee headcount to support the conduct of our research activities, including our activities under our collaboration with Juno; and
- $1.1 million increase in expenditures for laboratory equipment and supplies relating to the conduct of our research activities, including our activities under our collaboration with Juno.

*General and administrative expenses.* General and administrative expenses were $4.9 million for the six months ended June 30, 2016, compared to $5.4 million for the six months ended June 30, 2015. The decrease in general and administrative expenses primarily relates to a $0.4 million decrease in intellectual property-related expenses.

*Other expense, net.* Other expense, net was $0.9 million and $1.1 million for the six months ended June 30, 2016 and 2015, respectively. Other expense, net for each period consisted primarily of interest expense relating to our term loans with Silicon Valley Bank.

**Liquidity and Capital Resources**

We have incurred losses and negative cash flows from operations since inception. As of June 30, 2016, we had an accumulated deficit of $159.2 million and anticipate that we will continue to incur net losses for the foreseeable future.

***Operating Activities***

Cash used in operating activities increased from $4.3 million for the six months ended June 30, 2015 to $14.8 million for the six months ended June 30, 2016. The primary driver of this change in cash used in operating activities was a $9.4 million change in deferred revenue resulting from the Agreement with Juno in May 2015 and our increase in net loss in the periods presented.

***Agreement with Juno Therapeutics, Inc.***

On May 4, 2015, we entered into a strategic research collaboration and license agreement with Juno to screen for and identify small molecule modulators that enhance the therapeutic properties of Juno's genetically-engineered T-cell immunotherapies. Pursuant to the terms of the Agreement, Juno paid us an upfront payment of $5.0 million, and purchased one million shares of our common stock, at $8.00 per share, for an aggregate purchase price of $8.0 million. Additionally, Juno agreed to fund all of our collaboration research activities for an initial four-year research term beginning on the effective date of the Agreement, with minimum annual research payments of $2.0 million to us. Juno has the option to extend the exclusive research term for an additional two years beyond the initial four-year term, subject to the payment of an extension fee of $3.0 million and the continued funding of our activities under the collaboration during the extended term, with minimum annual research payments of $4.0 million to us during the two-year extension period. As of June 30, 2016, we have received a total of $1.8 million of such research payments.

We are eligible under the Agreement to receive selection fees for each tumor-associated antigen target selected by Juno and bonus selection fees based on the aggregate number of tumor-associated antigen targets selected by Juno. Additionally, in connection with each Juno therapy that uses or incorporates our small molecule modulators, Juno has agreed to pay us non-refundable, non-creditable milestone payments totaling up to approximately $51.0 million, in the aggregate, per therapy upon the achievement of various clinical, regulatory and commercial milestones. Additionally, in connection with the third Juno therapy and the fifth Juno therapy that uses or incorporates our small molecule modulators, Juno has agreed to pay us additional non-refundable, non-creditable bonus milestone payments totaling up to approximately $116.0 million and $137.5 million, respectively, in the aggregate, per therapy upon the achievement of various clinical, regulatory, and commercial milestones. As of June 30, 2016, no selection fees or milestone payments have been received by us.

Beginning on the date of the first commercial sale (in each country) for each Juno therapy that uses or incorporates our small molecule modulators, and continuing until the later of i) the expiration of the last valid patent claim, ii) ten years after such first commercial sale, or iii) the expiration of all data and other regulatory exclusivity periods afforded each therapy, Juno has agreed to pay us royalties in the low single-digits on net sales of each Juno therapy that uses or incorporates our small molecule modulators. As of June 30, 2016, no royalties have been received by us.

***Investing Activities***

During the six months ended June 30, 2016 and 2015, investing activities used cash of $10.6 million and $0.7 million, respectively. During the six months ended June 30, 2016, we purchased $16.2 million in U.S. Treasuries as short-term investments, offset by $6.0 million in maturities of these short-term investments. All other investing activities for the periods presented were attributable to the purchase of property and equipment.

***Financing Activities***

For the six months ended June 30, 2016, financing activities used cash of $3.6 million, which consisted of $3.8 million of principal payments on our term loans outstanding with Silicon Valley Bank, offset by $0.2 million received from the issuance of common stock.

For the six months ended June 30, 2015, financing activities provided cash of $37.0 million, which consisted primarily of $4.6 million from our Agreement with Juno, which amount represents the fair value of common stock purchased by Juno under the Agreement, and $32.3 million of net proceeds from a follow-on public offering of our common stock completed in May 2015 in which we sold 6,900,000 shares of our common stock at an offering price of $5.00 per share. Gross proceeds from the offering were $34.5 million. Total underwriting discounts, commissions, and other cash costs related to the offering were $2.4 million. After giving effect to all such costs, total net proceeds from the offering were ultimately $32.1 million.

From our inception through June 30, 2016, we have funded our consolidated operations primarily through the public sale of common stock, the private placement of preferred stock and convertible notes, commercial bank debt and revenues from collaboration activities and grants. As of June 30, 2016, we had aggregate cash and cash equivalents and short-term investments of $45.9 million.

***Silicon Valley Bank Debt Facility***

On July 30, 2014, we entered into an Amended and Restated Loan and Security Agreement (the "Restated LSA") with Silicon Valley Bank (the "Bank"), collateralized by substantially all of our assets, excluding certain intellectual property. The Restated LSA amends and restates the Loan and Security Agreement, dated as of January 5, 2009, as amended, by and between us and the Bank (the "Loan Agreement"). Pursuant to the Restated LSA, the Bank agreed to make loans to us in an aggregate principal amount of up to $20.0 million, comprised of (i) a $10.0 million term loan, funded at the closing date (the "Term A Loan") and (ii) subject to the achievement of a specified clinical milestone relating to our Phase 2 clinical trial of ProHema, additional term loans totaling up to $10.0 million in the aggregate, which were available until December 31, 2014 (each, a "Term B Loan"). On December 24, 2014, we elected to draw $10.0 million under the Term B Loan.

The Term A Loan and the Term B Loan mature on January 1, 2018 and June 1, 2018, respectively and bear interest at a fixed annual rate of 6.94% and 7.07%, respectively. Interest became payable in cash on a monthly basis beginning the first day of each month following the month in which the funding date of each loan occurred. We are required to make a monthly payment of interest only during the first twelve months following the funding date of each loan, and thereafter are required to repay the principal and interest under each loan in thirty equal monthly installments based on a thirty-month amortization schedule. During the six months ended June 30, 2016, we made aggregate principal payments totaling $3.8 million on the Term A Loan and Term B Loan. We are required to make a final payment fee of 7.5%, equaling $0.8 million of the funded amount for each of the Term A and Term B Loan on their respective maturity dates.

A portion of the proceeds from the Term A Loan were used to repay loans outstanding under the Loan Agreement and to pay for transaction fees related to the Restated LSA, including a commitment fee of $0.4 million paid by us to the Bank. Net proceeds from the Term A Loan, after repayment of loans outstanding under the Loan Agreement and transaction fees, were $8.8 million.

Proceeds from the Term B Loan were $10.0 million. In connection with the funding of the Term B Loan, we issued the Bank and one of its affiliates fully-exercisable warrants to purchase an aggregate of 98,039 shares of our common stock (the "Warrants") at an exercise price of $4.08 per share. The Warrants expire in December 2021. The aggregate fair value of the Warrants was determined to be $0.4 million using the Black-Scholes option pricing model.

The net proceeds from the Term A and Term B Loans have been used for, and we expect to continue to use net proceeds for, working capital purposes, including the research and development of our product candidates and cellular programming technology.

***Shelf Registration Statement***

In October 2014, the SEC declared effective a shelf registration statement filed by us in October 2014. The shelf registration statement allows us to issue certain securities, including shares of our common stock, from time to time. The specific terms of any offering, if any, under the shelf registration statement would be established at the time of such offering. As of August 8, 2016, after taking into account the May 2015 public offering of common stock, we are eligible to issue an aggregate of $65.5 million in securities under the shelf registration statement.

***Agreement with Juno Therapeutics, Inc.***

Under the Agreement with Juno, Juno purchased one million shares of our common stock, at $8.00 per share, for an aggregate purchase price of $8.0 million in May 2015, $4.6 million of which was considered an equity component of the transaction. Juno has the option to extend the exclusive research term under the Agreement for an additional two years beyond the initial four-year term, subject to the payment of an extension fee of $3.0 million and the continued funding of our activities under the collaboration during the extended term, with minimum annual research payments of $4.0 million to us during the two-year extension period. Upon exercise of the research term extension, we have the option to require Juno to purchase up to $10.0 million of our common stock at a premium equal to 120% of the then thirty-day trailing volume weighted average trading price of our common stock.

See the *Operating Activities* in the "Liquidity and Capital Resources" section above for further discussion on the Agreement.

***Operating Capital Requirements***

We anticipate that we will continue to incur losses for the foreseeable future, and we expect the losses to increase as we continue the research and development of, and seek regulatory approvals for, our product candidates. Our product candidates have not yet achieved regulatory approval, and we may not be successful in achieving commercialization of our product candidates.

We believe our existing cash and cash equivalents and short-term investments as of June 30, 2016 will be sufficient to fund our projected operating requirements for at least the next twelve months. However, we are subject to all the risks and uncertainties incident in the research and development of therapeutic products. For example, the FDA or other regulatory authorities may require us to generate additional data or conduct additional preclinical studies or clinical trials, or may impose other requirements beyond those that we currently anticipate. Additionally, it is possible for a product candidate to show promising results in preclinical studies or in clinical trials, but fail to establish sufficient safety and efficacy data necessary to obtain regulatory approvals. As a result of these and other risks and uncertainties and the probability of success, the duration and the cost of our research and development activities required to advance a product candidate cannot be accurately estimated and are subject to considerable variation. We may encounter difficulties, complications, delays and other unknown factors and unforeseen expenses in the course of our research and development activities, any of which may significantly increase our capital requirements and could adversely affect our liquidity.

We will require additional capital for the research and development of our product candidates, and we may be forced to seek additional funds sooner than expected to pursue our research and development activities. We expect to finance our capital requirements in the foreseeable future through the sale of public or private equity or debt securities. However, additional capital may not be available to us on reasonable terms, if at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the research or development of one or more of our product candidates. If we do raise additional funds through the issuance of additional equity or debt securities, it could result in dilution to our existing stockholders, increased fixed payment obligations and the existence of securities with rights that may be senior to those of our common stock. Additionally, if we incur indebtedness, we may become subject to financial or other covenants that could adversely restrict, impair or affect our ability to conduct our business, such as requiring us to relinquish rights to certain of our product candidates or technologies or limiting our ability to acquire, sell or license intellectual property rights or incur additional debt. Any of these events could significantly harm our business, operations, financial condition and prospects.

Our forecast of the period of time through which our existing cash and cash equivalents and short-term investments will be adequate to support our operations is a forward-looking statement and involves significant risks and uncertainties. We have based this forecast on assumptions that may prove to be wrong, and actual results could vary materially from our expectations, which may adversely affect our capital resources and liquidity. We could utilize our available capital resources sooner than we currently expect. The amount and timing of future funding requirements, both near- and long-term, will depend on many factors, including, but not limited to:

- the initiation, timing, progress, size, duration, costs and results of our preclinical studies and clinical trials for our product candidates;
- the number and the nature of product candidates that we pursue;
- the cost of procuring clinical supplies of our product candidates;
- the time, cost and outcome of seeking and obtaining regulatory approvals;
- the extent to which we are required to pay milestone or other payments under our in-license agreements and the timing of such payments;
- the extent to which milestones are achieved under our collaboration agreement with Juno, and the time to achievement of such milestones;
- the cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the expansion of our research and development activities, including our need and ability to hire additional employees and procure additional equipment, materials and supplies;
- the establishment and continuation of collaborations and strategic alliances;
- the timing and terms of future in-licensing and out-licensing transactions; and
- the cost of establishing sales, marketing, manufacturing and distribution capabilities for, and the pricing and reimbursement of, any products for which we may receive regulatory approval.

If we cannot continue or expand our research and development operations, or otherwise capitalize on our business opportunities, because we lack sufficient capital, our business, operations, financial condition and prospects could be materially adversely affected.

**Contractual Obligations and Commitments**

In July 2014, we entered into the Restated LSA with the Bank. Pursuant to the Restated LSA, the Bank agreed to make loans to us in an aggregate principal amount of up to $20.0 million, which we have fully drawn upon. See Note 5 of the Condensed Consolidated Financial Statements for further details.

The Company leases office and laboratory space under non-cancelable operating leases. Effective as of June 1, 2016, the Company entered into an amendment to its existing facilities lease agreement extending the term of the lease through June 2023 and agreeing to lease additional space comprising approximately 24,000 square feet in the same building as its existing space. As of June 30, 2016, aggregate future minimum payments under these operating leases are $14.8 million. See Note 5 of the Condensed Consolidated Financial Statements for further details.

We have no material contractual obligations not fully recorded on our Condensed Consolidated Balance Sheets or fully disclosed in the notes to the financial statements.

**Off-Balance Sheet Arrangements**

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

**Item 3. Quantitative and Qualitative Disclosures about Market Risk**

***Interest Rate Risk***

As of June 30, 2016 our cash and cash equivalents consisted of cash and money market mutual funds, and our short-term investments consisted of United States treasuries with maturities ranging from six to twelve months from the date of acquisition. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. However, because of the short-term nature and low risk profile of the instruments in our portfolio, a 10% change in market interest rates would not have a material impact on our financial condition and/or results of operations.

Our outstanding debt bears interest at a fixed rate and therefore has no exposure to changes in interest rates.

**Item 4. Controls and Procedures**

***Disclosure Controls and Procedures***

We carried out an evaluation, under the supervision and with the participation of our management, including our chief executive officer, who serves as both our principal executive officer and our principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act as of the end of the period covered by this Quarterly Report on Form 10-Q. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable and not absolute assurance of achieving the desired control objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on this evaluation, the individual serving as our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of June 30, 2016.

***Changes in Internal Control over Financial Reporting***

There were no changes in our internal control over financial reporting that occurred during our latest fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

## PART II. OTHER INFORMATION

### Item 1. Legal Proceedings

We are not a party to any material legal proceedings at this time. From time to time, we may be subject to various legal proceedings and claims that arise in the ordinary course of our business activities. Although the results of litigation and claims cannot be predicted with certainty, we do not believe we are party to any claim or litigation the outcome of which, if determined adversely to us, would individually or in the aggregate be reasonably expected to have a material adverse effect on our business. Regardless of the outcome, litigation can have an adverse effect on us because of defense and settlement costs, diversion of management resources and other factors.

### Item 1A. Risk Factors

*You should carefully consider the following risk factors, as well as the other information in this Quarterly Report on Form 10-Q, and in our other public filings. The occurrence of any of these risks could harm our business, financial condition, results of operations and/or growth prospects or cause our actual results to differ materially from those contained in forward-looking statements we have made in this report and those we may make from time to time. You should consider all of the risk factors described in our public filings when evaluating our business.*

#### Risks Related to the Discovery, Development and Regulation of Our Product Candidates

***Development of our product candidates will require substantial additional funding, without which we will be unable to complete clinical development of, or obtain regulatory approval for, our product candidates.***

Developing therapeutic products, including conducting preclinical studies and clinical trials of cellular therapeutics, is expensive. Based upon our currently expected level of operating expenditures, we believe that we will be able to fund our operations for at least the next twelve months. However, our resources will likely be insufficient to conduct research and development programs and clinical development to the full extent currently planned. We will require substantial additional capital to conduct the research and development and clinical and regulatory activities necessary to bring any of our product candidates to market. Our future capital requirements will depend on many factors, including, but not limited to:

- the progress, results, timing and costs of our preclinical studies, our current Phase 1/2 clinical trial of ProTmune and any other additional clinical trials;
- continued progress in our research and development programs, including the preclinical studies and planned clinical trials of any additional product candidates we may identify for clinical development;
- our ability to initiate, and the progress, results, size, timing and costs of, additional future clinical trials of our product candidates, including ProTmune, that will be necessary to support any application for regulatory approval;
- our ability to maintain, expand and defend the scope of our intellectual property portfolio, including the amount and timing of any payments we may be required to make, or that we may receive, in connection with the licensing, filing, prosecution, defense and enforcement of any patents or other intellectual property rights;
- the cost of commercialization activities and arrangements, including the commercial manufacturing of our product candidates; and
- our ability to establish and maintain strategic arrangements and alliances with third-party collaborators including our existing collaboration with Juno, to advance the research, development and commercialization of therapeutic products.

We cannot guarantee that additional capital will be available in sufficient amounts or on terms acceptable to us, if at all. We intend to seek additional funding through the public or private sales of our securities, including equity securities. Any additional equity financings will be dilutive to our stockholders and any additional debt financings may involve operating covenants that restrict our business.

If we cannot raise additional capital or obtain adequate funds, we may be required to curtail significantly our research and clinical programs or may not be able to continue our research or clinical development of our product candidates. Our failure to raise additional capital, or obtain adequate funds, will have a material adverse effect on our business, operating results, prospects, and market price of shares of our common stock.

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

We are required to identify and enroll a sufficient number of patients with the disease under investigation for each of our ongoing and planned clinical trials of our product candidates, and we may not be able to identify and enroll a sufficient number of patients, or those with required or desired characteristics and criteria, in a timely manner. In addition, there are currently only a limited number of specialized transplant centers that perform hematopoietic stem cell transplants, or HSCTs, and among physicians who perform HSCTs, some may not choose to perform these procedures under conditions that fall within our protocols, which would have an adverse effect on our development of ProTmune. Our ability to enroll patients in our clinical trials, including in our current Phase 1/2 clinical trial of ProTmune, is affected by factors including:

- the ability to identify, solicit and recruit a sufficient number of patients;
- severity of the disease under investigation;
- design of the trial protocol;
- the relatively small size and nature of the patient population for the trial in question;
- eligibility criteria for the trial in question;
- perceived risks and benefits of the product candidate under study;
- availability of competing therapies and clinical trials;
- efforts to facilitate timely enrollment in clinical trials;
- the availability of time and resources at the limited number of institutions at which our clinical trials are or will be conducted;
- the ability to monitor patients adequately during and after treatment; and
- the proximity and availability of clinical trial sites for prospective patients.

If we have difficulty enrolling a sufficient number of patients to conduct our clinical trials as planned, we may need to delay or terminate ongoing or planned clinical trials, either of which would have an adverse effect on our business.

***We may face delays in initiating or completing our clinical trials, and we may not be able to complete them at all.***

We have not completed the clinical trials necessary to support an application for approval to market ProTmune or any other product candidates that we may identify. We may experience delays in our current or future clinical trials, and we do not know whether we will be able to initiate, enroll patients in, or complete, our clinical trials on time, if at all. Our current and future clinical trials of our product candidates may be delayed, unsuccessful or terminated as a result of many factors, including factors related to:

- difficulties in identifying eligible patients for participation in our clinical trials due to our focus on the development of product candidates for the treatment of rare diseases;
- difficulties enrolling a sufficient number of suitable patients to conduct our clinical trials, including difficulties relating to patients enrolling in studies of therapeutics sponsored by our competitors;
- difficulties in obtaining agreement from regulatory authorities on study endpoints, achieving study endpoints, demonstrating efficacy and safety, and completing data analysis in clinical trials for any of our product candidates;
- the occurrence of unexpected safety issues or adverse events in any current or subsequent clinical trial of our product candidates;
- securing and maintaining the support of clinical investigators and investigational sites, and obtaining institutional review board, or IRB, approval at each site for the conduct of our clinical trials;
- governmental or regulatory delays, failure to obtain regulatory approval, or uncertainty or changes in regulatory requirements, policy or guidelines;
- reaching agreement on acceptable terms with third-party service providers and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different service providers and clinical trial sites;
- failure of cell processing facilities at our clinical trial sites to manufacture certain of our product candidates consistently in accordance with our protocol-specified processes for use in our clinical trials;

- our failure, or the failure of third-party service providers or clinical trial sites, to ensure the proper and timely conduct and analysis of our clinical trials;
- inability to reach agreement on clinical trial design and parameters with regulatory authorities, investigators and IRBs;
- obtaining sufficient quantities of critical reagents and other materials and equipment necessary for the manufacture and processing of any product candidate;
- data monitoring committees recommending suspension, termination or a clinical hold for various reasons, including concerns about patient safety;
- the serious, life-threatening diseases of the patients to be enrolled in our clinical trials, who may die or suffer adverse medical events for reasons that may not be related to our product candidates;
- failure of patients to complete clinical trials due to safety issues, side effects, or other reasons; and
- approval of competitive agents that may materially alter the standard of care or otherwise render our product candidates or clinical trial designs obsolete.

If we experience delays in any clinical trial of our product candidates or any of these clinical trials are terminated before completion, the commercial prospects of our product candidates will be harmed. In addition, any delays in commencing or completing our clinical trials will increase our costs, slow down our product candidate development and approval process, and jeopardize our ability to commence product sales and generate revenues. Furthermore, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates. Any of these occurrences would significantly harm our business, prospects, financial condition and results of operations.

***Results from earlier studies may not be predictive of the results of later studies or future clinical trials.***

All of our product candidates are still in an early stage of development, and we cannot be assured that the development of any of our product candidates will ultimately be successful. Results from preclinical testing and earlier clinical studies, including clinical studies with similar product candidates, are not necessarily predictive of future clinical study results. While we have demonstrated in preclinical models that a single administration of ProTmune resulted in a statistically-significant reduction in GvHD score and improvement in survival, as compared to vehicle-treated cells, we may not observe similar results in future preclinical or clinical studies of ProTmune. Additionally, while subjects treated with ProHema, one of our prior product candidates, in an earlier clinical trial experienced a reduction in the number of severe viral infection-related adverse events, these results should not be relied upon as predictive of any clinical study results with ProTmune. Although ProTmune and ProHema are similar compositions of human hematopoietic cells that have been programmed *ex vivo* with FT1050, ProTmune and ProHema are different product candidates resulting from different manufacturing processes. For example, ProHema consists of umbilical cord blood that is programmed *ex vivo* with FT1050, while ProTmune consists of mobilized peripheral blood that is programmed *ex vivo* with FT1050 and a second small molecule, FT4145. Further, earlier clinical trials of ProHema were based on a different study design and assessed different endpoints than our current clinical trial of ProTmune.

The results of our current and future clinical trials may differ from results achieved in earlier preclinical and clinical studies for a variety of reasons, including:

- we may not demonstrate the potency and efficacy benefits observed in previous studies;
- our efforts to standardize and automate the manufacture of ProTmune may adversely affect its safety, purity, potency or efficacy;
- deviations in the manufacture of ProTmune by cell processing facilities at clinical centers participating in clinical trials that we conduct;
- differences in study design, including differences in conditioning regimens, eligibility criteria, and patient populations;
- advancements in the standard of care may affect our ability to demonstrate efficacy or achieve study endpoints in our current or future clinical trials; and
- safety issues or adverse events in patients that enroll in our current or future clinical trials.

Even if our current clinical trials are successful, we will likely need to conduct additional clinical trials, including registrational trials and trials in additional patient populations or under different treatment conditions, before we are able to seek approvals for our product candidates from the FDA and regulatory authorities outside the United States to market and sell these product candidates. Our failure to meet the requirements to support marketing approval for our product candidates in our ongoing and future clinical trials would substantially harm our business and prospects.

***If we fail to complete the preclinical or clinical development of, or to obtain regulatory approval for, our product candidates, our business would be significantly harmed.***

All of our product candidates are currently in research or clinical development, including our lead product candidate, ProTmune, which is currently in Phase 1/2 clinical development. We have not completed clinical development of or obtained regulatory approval for any of our product candidates. Only a small percentage of research and development programs ultimately result in commercially successful products, and we cannot assure you that any of our product candidates will demonstrate the safety and efficacy profiles necessary to support further preclinical study, clinical development or regulatory approval.

We may delay or cancel our ongoing research and development activities and our current or planned clinical development for any of our product candidates, including ProTmune, for a variety of reasons, including:

- determining that a product candidate is ineffective or causes harmful side effects during preclinical studies or clinical trials;
- difficulty establishing predictive preclinical models for demonstration of safety and efficacy of a product candidate in one or more potential therapeutic areas for clinical development;
- difficulties in manufacturing a product candidate, including the inability to manufacture a product candidate in a sufficient quantity, suitable form, or in a cost-effective manner, or under processes acceptable to the FDA for marketing approval;
- the proprietary rights of third parties, which may preclude us from developing or commercializing a product candidate;
- determining that a product candidate may be uneconomical to develop or commercialize, or may fail to achieve market acceptance or adequate reimbursement;
- our inability to secure strategic partners which may be necessary for advancement of a product candidate into clinical development or commercialization; or
- our prioritization of other product candidates for advancement.

Additionally, we will only obtain regulatory approval to market a product candidate if we can demonstrate, to the satisfaction of the FDA or comparable foreign regulatory authorities, in well-designed and conducted clinical trials that the product candidate is manufactured in accordance with applicable regulatory requirements, is safe and effective, and otherwise meets the appropriate standards required for approval for a particular indication. Our ability to obtain regulatory approval of our product candidates depends on, among other things, completion of additional preclinical studies and clinical trials, whether our clinical trials demonstrate statistically significant efficacy with safety profiles that do not potentially outweigh the therapeutic benefit, and whether regulatory agencies agree that the data from our clinical trials and our manufacturing processes are sufficient to support approval. The final results of our current and future clinical trials may not meet the FDA's or other regulatory agencies' requirements to approve a product candidate for marketing, and the regulatory agencies may otherwise determine that our manufacturing processes or facilities are insufficient to support approval. We may need to conduct preclinical studies and clinical trials that we currently do not anticipate. If we fail to complete preclinical or clinical development of, or obtain regulatory approval for, our product candidates, we will not be able to generate any revenues from product sales, which will harm our business, prospects, financial condition and results of operations.

***Our clinical development of ProTmune could be substantially delayed if the FDA requires us to conduct unanticipated studies or trials or imposes other requirements or restrictions.***

The FDA may require us to generate additional preclinical, product or clinical data as a condition to initiating and conducting our current or future clinical trials of ProTmune. Additionally, the FDA may in the future have comments, or impose requirements, on our protocols for conducting clinical trials of ProTmune. Any requirements to generate additional data or redesign or modify our protocols, or other additional comments, requirements or impositions by the FDA, may cause delays in the initiation or conduct of the current or future clinical trials for ProTmune and subsequent development activities for ProTmune, and could require us to incur additional development costs and resources, seek funding for these increased costs or resources or delay our timeline for, or cease, our clinical development activities for ProTmune, or could create uncertainty and additional complexity in our ability to obtain regulatory approval for ProTmune.

Further, if the results of our clinical trials are inconclusive, or if there are safety concerns or adverse events associated with ProTmune or any of our other product candidates, we may:

- be delayed in obtaining, or unable to obtain, regulatory approval for our product candidates;
- be required to amend the protocols for our clinical trials, perform additional non-clinical studies or clinical trials to support approval or be subject to additional post-marketing testing requirements;

- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings or contraindications; or
- have regulatory authorities withdraw their approval of the product or impose restrictions on its use.

***Our plans for clinical development and commercialization of our product candidates could be substantially delayed or restricted if the FDA or other regulatory authorities impose additional requirements on our manufacturing processes or if we are required to change our manufacturing processes to comply with regulatory requirements.***

The manufacture of ProTmune in close proximity to transplant centers within a short period of time before transplantation may present unprecedented complexities associated with ensuring consistent manufacture in compliance with regulatory requirements as necessary for marketing approval. We will need to standardize the process for manufacturing ProTmune, and ProTmune used in registrational clinical trials must be manufactured in compliance with FDA regulatory requirements. In addition, the FDA may impose additional requirements on our processes for the manufacture of ProTmune or our other product candidates.

While ProTmune is currently manufactured prior to transplantation at clinical cell processing facilities operated by or affiliated with our clinical sites, we may be required to identify alternative processes for the manufacture of ProTmune in compliance with applicable regulatory requirements, and in the future we may manufacture ProTmune at facilities operated by us, by transplant centers, or by third parties. Any requirements to modify our manufacturing processes, and any delays in, or inability to, establish manufacturing processes acceptable to the FDA could require us to incur additional development costs or result in delays to our clinical development plans, or could create uncertainty and additional complexity in our ability to obtain regulatory approval for ProTmune. Any such events could delay or prevent our ability to obtain regulatory approval or commercialize ProTmune, which would adversely affect our business, financial condition and results of operations.

***We study our product candidates in patient populations with significant comorbidities that may result in deaths or serious adverse or unacceptable side effects and require us to abandon or limit our clinical development activities.***

Patients treated with ProTmune in our ongoing clinical trial, as well as patients who may undergo treatment with other product candidates that we may develop, may also receive chemotherapy, radiation, and/or other high dose or myeloablative treatments in the course of treatment of their disease, and may therefore experience side effects or adverse events, including death, that are unrelated to our product candidates. While these side effects or adverse events may be unrelated to our product candidates, they may still affect the success of our clinical studies. The inclusion of critically ill patients in our clinical studies may result in deaths or other adverse medical events due to underlying disease or to other therapies or medications that such patients may be using. Any of these events could prevent us from advancing ProTmune or other product candidates through clinical development, and from obtaining regulatory approval, and would impair our ability to commercialize our product candidates. Any inability to advance ProTmune or any other product candidate through clinical development would have a material adverse effect on our business, and the value of our common stock would decline.

***Because our product candidates are based on novel technologies, it is difficult to predict the applicable regulatory pathway to approval and the time, the cost and our ability to successfully complete clinical development, and to obtain the necessary regulatory and reimbursement approvals required for commercialization, of our product candidates.***

ProTmune and other product candidates that we may develop based on our cell programming technology represent novel therapeutics, and we face uncertainties associated with the clinical development, regulatory pathways to approval, and reimbursement required for successful commercialization of these product candidates. The clinical development and regulatory approval of novel product candidates such as ours can be more expensive and take longer than for other more well-known or extensively studied pharmaceutical or biopharmaceutical product candidates due a lack of prior experiences on the side of both developers and regulatory agencies. Additionally, due to the uncertainties associated with the clinical development and the regulatory pathways of our product candidates, we may be required to modify or change our clinical development plans or our regulatory pathways for approval. Any such modification or changes could delay or prevent our ability to develop, obtain regulatory approval or commercialize our product candidates, which would adversely affect our business, financial condition and results of operations.

Cellular therapeutics, and stem cell therapies in particular, represent a relatively new therapeutic area, and the FDA has cautioned consumers about potential safety risks associated with these therapies. To date, there are relatively few approved cellular therapeutics. In addition, there are currently no FDA approved products with a label designation that supports the use of a product to prevent acute Graft vs. Host Disease (GvHD) or viral infections in patients undergoing allogeneic HSCT, which makes it difficult to determine the time and cost required to obtain regulatory approvals in the United States or other jurisdictions for ProTmune or any other product candidates that we may develop.

Regulatory requirements governing cell therapy products have changed frequently and the FDA or other regulatory bodies may change the requirements for or identify different regulatory pathways for approval for any of our product candidates. For example, the FDA established the Office of Cellular, Tissue and Gene Therapies within its Center for Biologics Evaluation and Research, or CBER, to consolidate the review of gene therapy and related products, and the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER on its review, and it is possible that new or different bodies may be established or be granted the responsibility for regulating pharmacologically modulated cellular therapeutics such as ours. As a result, we may be required to change our regulatory strategy or to modify our applications for regulatory approval, which could delay and impair our ability to complete the clinical development of, and obtain regulatory approval for our product candidates. Changes in regulatory authorities and advisory groups, or any new requirements or guidelines they promulgate, may lengthen the regulatory review process, require us to perform additional studies, increase our development costs, lead to changes in regulatory pathways, positions and interpretations, delay or prevent approval and commercialization of our product candidates or lead to significant post-approval limitations or restrictions. As we advance our product candidates, we will be required to consult with the FDA and other regulatory authorities, and our products will likely be reviewed by the FDA's advisory committee. We also must comply with applicable requirements, and if we fail to do so, we may be required to delay or discontinue development of our product candidates. Delays or unexpected costs in obtaining, or the failure to obtain, the regulatory approval necessary to bring a potential product to market could impair our ability to generate sufficient product revenues to maintain our business.

***Even if we obtain regulatory approval for a product candidate, our products will remain subject to regulatory scrutiny.***

Any product candidate for which we obtain marketing approval, along with the manufacturing processes, qualification testing, post-approval clinical data, labeling and promotional activities for such product, will be subject to continual and additional requirements of the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information, reports, registration and listing requirements, requirements relating to current good manufacturing practices, or cGMP, quality control, quality assurance and corresponding maintenance of records and documents, and recordkeeping. 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 or to conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. The FDA closely regulates the post-approval marketing and promotion of pharmaceutical and biological products to ensure such products are marketed only for the approved indications and in accordance with the provisions of the approved labeling. Later discovery of previously unknown problems with our product candidates, manufacturing processes, or failure to comply with regulatory requirements, may lead to various adverse conditions, including significant delays in bringing our product candidates to market and or being precluded from manufacturing or selling our product candidates, any of which could significantly harm our business.

***We expect to seek and rely on orphan drug status to develop and commercialize certain of our product candidates, but any orphan drug designations that we are granted may not confer marketing exclusivity or other expected commercial benefits.***

We expect to seek and rely on orphan drug exclusivity for ProTmune and potential future product candidates that we may develop. Orphan drug status confers seven years of marketing exclusivity in the United States under the Federal Food, Drug, and Cosmetic Act, and up to ten years of marketing exclusivity in Europe for a particular product in a specified indication. Although we anticipate that we may apply for orphan designation for ProTmune and other product candidates that we may identify and develop, there is no assurance that the FDA or other comparable foreign regulatory authorities will grant orphan designation for our product candidates in the indications that we pursue. Even if we are granted orphan designations for our product candidates, including ProTmune, we will not be able to rely on these designations to exclude other companies from manufacturing or selling biological products using the same principal molecular structural features for the same indication beyond these timeframes. Furthermore, any marketing exclusivity in Europe can be reduced from ten years to six years if the initial designation criteria have significantly changed since the market authorization of the orphan product.

For any product candidate for which we are granted orphan drug designation in a particular indication, it is possible that another company also holding orphan drug designation for the same product candidate will receive marketing approval for the same indication before we do. If that were to happen, our applications for that indication may not be approved until the competing company's period of exclusivity expires. Even if we are the first to obtain marketing authorization for an orphan drug indication in the United States, there are circumstances under which a competing product may be approved for the same indication during the seven-year period of marketing exclusivity, such as if the later product is shown to be clinically superior to our orphan product, or if the later product is deemed a different product than ours. Further, the seven-year marketing exclusivity would not prevent competitors from obtaining approval of the same product candidate as ours for indications other than those in which we have been granted orphan drug designation, or for the use of other types of products in the same indications as our orphan product.

***We may be subject to certain regulations, including federal and state healthcare fraud and abuse laws and health information privacy and security laws. Any failure to comply with these regulations could have a material adverse effect on our business and financial condition.***

If we obtain FDA approval for any of our product candidates and begin commercializing those products in the United States, our operations may be subject to various federal and state healthcare laws, including, without limitation, fraud and abuse laws, false claims laws, data privacy and security laws, as well as transparency laws regarding payments or other items of value provided to healthcare providers. These laws may impact, among other things, our proposed sales, marketing and education programs. In addition, we may be subject to patient privacy regulation by both the federal government and the states in which we conduct our business. Because of the breadth of these laws and the narrowness of the safe harbors, it is possible that some of our business activities could be subject to challenge under one or more of these laws. Additionally, if our operations are found to be in violation of any of the laws described above or any other governmental regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

**Risks Related to Our Reliance on Third Parties**

***We currently depend on facilities operated by transplant centers for the manufacture of ProTmune under specific conditions. Any failure by these facilities to manufacture ProTmune consistently and under the proper conditions may result in delays to our clinical development plans and impair our ability to obtain approval for, or commercialize, ProTmune.***

ProTmune is currently manufactured for our Phase 1/2 clinical trial at clinical cell processing facilities operated by or affiliated with our clinical sites in close proximity to the treatment site on the same day as product administration. We will be required by the FDA to standardize the manufacture of ProTmune, including our oversight for facility and raw material and vendor qualification through to final product analytical testing and release. The manufacture of ProTmune for use in registrational clinical trials and commercialization will be subject to the requirements of applicable regulatory authorities, including the FDA, and the anticipated manufacture of ProTmune for commercialization may require each of the clinical cell processing facilities at which ProTmune is manufactured to comply with cGMP and other regulatory requirements, and be subject to inspections by the FDA or other applicable regulatory authorities that would be conducted after the submission of a biologics license application, or BLA, or other marketing application. Although we are responsible for ensuring compliance with applicable regulatory requirements and for overseeing all aspects of product manufacture and release prior to applying for marketing approval, we do not control the activities of these third-party cell processing facilities and are completely dependent on their ability to comply with the FDA's requirements and to properly execute the protocol for the manufacture of ProTmune. In particular, if the FDA requires each of the clinical cell processing facilities to comply with cGMP, there can be no guarantee that they will be able to do so. Because of these manufacturing requirements, if the applicable clinical cell processing facilities are unable to manufacture ProTmune in a manner that conforms to our specifications and the FDA's strict regulatory requirements, we may be required to identify alternative processes or facilities for the manufacture of ProTmune, which may require us to spend significant additional time and resources, and would impair our ability to complete the clinical development of, and to commercialize, ProTmune. To comply with applicable regulatory requirements and our protocols for the manufacture of ProTmune, the clinical cell processing facility may be required to possess or obtain certain equipment, including but not limited to biosafety cabinets, warming devices, cell washing devices, freezers or other materials, or to modify aspects of its operations, including its physical facility or layout, environmental systems, monitoring systems, quality systems or training procedures. If a clinical cell processing facility is unwilling or unable to comply with these regulatory requirements or with our protocols for the manufacture of ProTmune, it will be restricted or prohibited from manufacturing ProTmune and making it available for administration to patients. Any failure by these clinical cell processing facilities to properly manufacture ProTmune may adversely affect the safety and efficacy profile of ProTmune or cause the FDA or other regulatory authorities to impose restrictions or prohibitions on the manufacture and use of ProTmune in both the clinical and the commercial setting, which would have an adverse effect on our business.

***We depend on third-party suppliers for various components, materials and equipment required for the manufacture of ProTmune and do not have supply arrangements for certain of these components.***

We currently rely, and expect to continue to rely, on third-party suppliers for components necessary for the manufacture of ProTmune. We have not entered into, and may not be able to enter into, agreements for the supply of certain components. Even if we are able to enter into such agreements, we may be limited to a sole third-party for the supply of certain required components, including FT1050 and components for our cell processing media. Additionally, to date, we and our clinical cell processing facilities have purchased equipment, materials and disposables, such as automated cell washing devices, automated cell warming units, commercially available media and cell transfer and wash sets, used for the manufacture of ProTmune from third parties. We rely on the general commercial availability of these materials, and we do not have any current contractual relationships for the supply of these materials. Accordingly, we may incur delays or increased costs due to any interruption in supply, and we cannot guarantee that we will have an adequate supply of components, equipment, materials and disposables to complete our planned clinical development and commercialization of ProTmune.

If we are required to change suppliers, or modify the components, equipment, materials or disposables used for the manufacture of ProTmune, we may be required to change our manufacturing processes or clinical trial protocols or to provide additional data to regulatory authorities in order to use any alternative components, equipment, materials or disposables, any of which could delay, or increase the costs required to complete, our clinical development and commercialization of ProTmune. Additionally, any such change or modification may adversely affect the safety, efficacy or potency of ProTmune, and could adversely affect our clinical development of ProTmune and harm our business.

***We face a variety of challenges and uncertainties associated with our dependence on human mobilized peripheral blood, or mPB, for the manufacture of ProTmune.***

ProTmune is manufactured using mPB, which is currently procured directly by the clinical cell processing facilities from the National Marrow Donor Program (NMDP) for our ongoing Phase 1/2 clinical study. The availability of mPB for the manufacture of ProTmune depends on a number of regulatory, political, economic and technical factors outside of our control, including:

- government policies relating to the regulation of mPB for clinical use;
- NMDP and individual blood bank policies and practices relating to mPB acquisition and banking;
- the pricing of mPB;
- the methods used in searching for and matching mPB to patients, which involve emerging technology related to current and future mPB parameters that guide the selection of an appropriate unit of mPB for transplantation; and
- methods for the procurement and shipment of mPB and their handling and storage at clinical sites.

Additionally, we do not have control over the supply, availability, price or types of mPB that these clinical cell processing facilities use in the manufacture of ProTmune. We rely heavily on these third parties to procure mPB that is collected in compliance with government regulations and within the current standard of care. In addition, we may identify specific characteristics of specific units of mPB, such as the volume and red blood cell content, which may limit the ability to use such units in the manufacture of ProTmune even though this mPB may otherwise be suitable for use in allogeneic transplant. As a result, the requirement for mPB to meet our specifications may limit the potential inventory of mPB eligible for use in the manufacture of ProTmune.

In the United States, the banking and use of mPB does not require a BLA, and mPB is not an FDA licensed product. However, the FDA does require that units of mobilized peripheral blood adhere to and meet the standards set forth by the Foundation for Accreditation for Cell Therapy (FACT), the NMDP, and the American Association of Blood Banks (AABB), as applicable. In our current Phase 1/2 clinical trial of ProTmune, ProTmune is manufactured using unlicensed mPB units. It may be possible that in the future, regulatory policy could change, and the FDA may later require that mPB units be licensed, and that ProTmune be manufactured using only licensed mPB units. Any inability to procure sufficient supplies of mPB will adversely affect our ability to develop and commercialize ProTmune.

***We currently rely on third parties to conduct certain research and development activities and to support the conduct of our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may not be able to timely develop, obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.***

We have relied upon and expect to continue to rely upon third parties, including clinical research organizations, or CROs, for the conduct of certain research and preclinical development activities, and for the conduct, management, and supervision of our clinical trials. We control only certain aspects of the activities of these third parties through contractual agreements, and will have limited influence over their actual performance. Our reliance on third parties and CROs does not relieve us of our responsibilities to ensure that our clinical studies are conducted in accordance with the applicable protocol, legal, regulatory and scientific standards.

We are responsible for complying, and we are responsible for ensuring that our third-party service providers and CROs comply, with good clinical practices, or GCP, for conducting activities for all of our product candidates in clinical development, including conducting our clinical trials, and recording and reporting data from these trials. Regulatory authorities enforce these regulations through periodic inspections of trial sponsors, principal investigators and trial sites. We cannot assure that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP requirements. In addition, our registrational clinical trials must be conducted with product produced under applicable regulatory requirements.

If these third parties and CROs do not successfully carry out their contractual duties or obligations, meet expected deadlines or successfully complete activities as planned, or if the quality or accuracy of the research, preclinical development activities or clinical data they obtain is compromised due to the failure to adhere to our protocols, regulatory requirements or for other reasons, our research, preclinical development activities and clinical trials, and the development of our product candidates, may be extended,

delayed or terminated, and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. Further, if our agreements with third parties or CROs are terminated for any reason, the development of our product candidates may be delayed or impaired, and we may be unable to advance our product candidates. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenues could be delayed.

**Risks Related to Our Intellectual Property**

***If we are unable to protect our intellectual property, other companies could develop products based on our discoveries, which may reduce demand for our products and harm our business.***

Our commercial success will depend in part on our ability to obtain and maintain intellectual property protection for our product candidates, the processes used to manufacture them and the methods for using them, and our cell programming approach, in order to prevent third parties from making, using, selling, offering to sell or importing our product candidates or otherwise exploiting our cell therapy technology. We own and have exclusive licenses to patent portfolios for our product candidates and cell programming technology, although we cannot be certain that our existing patents and patent applications provide adequate protection or that any additional patents will issue to us with claims that provide adequate protection of our other product candidates. Further, we cannot predict the breadth of claims that may be enforced in our patents if we attempt to enforce them or if they are challenged in court or in other proceedings. If we are unable to secure and maintain protection for our product candidates and cell programming technology, or if any patents we obtain or license are deemed invalid and unenforceable, our ability to commercialize or license our technology could be adversely affected.

Others have filed, and in the future are likely to file, patent applications covering products and technologies that are similar, identical or competitive to ours or important to our business. We cannot be certain that any patent application owned by a third party will not have priority over patent applications filed or in-licensed by us, or that we or our licensors will not be involved in interference, opposition, reexamination, review, reissue, post grant review or invalidity proceedings before U.S. or non-U.S. patent offices.

We also rely upon unpatented trade secrets and improvements, unpatented know-how and continuing technological innovation to develop and maintain our competitive position, which we seek to protect, in part, through confidentiality agreements with our commercial collaborators, employees and consultants. We also have invention or patent assignment agreements with our employees and some, but not all, of our commercial collaborators and consultants. However, if our employees, commercial collaborators or consultants breach these agreements, we may not have adequate remedies for any such breach, and our trade secrets may otherwise become known or independently discovered by our competitors, which would adversely affect our business position.

***We depend on our licensors to prosecute and maintain patents and patent applications that are material to our business. Any failure by our licensors to effectively protect these intellectual property rights could adversely affect our business and operations.***

Certain rights to our key technologies and product candidates, including intellectual property relating to ProTmune and our induced pluripotent stem cell technology, are licensed from third parties. As a licensee of third party intellectual property, we rely on our licensors to file and prosecute patent applications and maintain patents, and otherwise protect the licensed intellectual property under some of our license agreements. We have not had and do not have primary control over these activities for certain of our licensed patents, patent applications and other intellectual property rights, and we cannot be certain that such activities will result in valid and enforceable patents and other intellectual property rights. Additionally, our licensors may have the right to control enforcement of our licensed patents or defense of any claims asserting the invalidity of these patents and we cannot be certain that our licensors will allocate sufficient resources or prioritize enforcement of such patents or defense of such claims to protect our interests in the licensed patents. Even if we are not a party to these legal actions, an adverse outcome could harm our business because it might prevent us from continuing to license intellectual property that we may need to operate our business.

***If we fail to comply with our obligations under our license agreements, we could lose rights to our product candidates or key technologies.***

We have obtained rights to develop, market and sell some of our product candidates, including ProTmune, through intellectual property license agreements with third parties. These license agreements impose various diligence, milestone payment, royalty and other obligations on us. If we fail to comply with our obligations under our license agreements, we could lose some or all of our rights to develop, market and sell products covered by these licenses, and our ability to form collaborations or partnerships may be impaired. In addition, disputes may arise under our license agreements with third parties, which could prevent or impair our ability to maintain our current licensing arrangements on acceptable terms and to develop and commercialize the affected product candidates.

***We may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights.***

If we choose to go to court to stop another party from using the inventions claimed in any patents we obtain, that individual or company has the right to ask the court to rule that such patents are invalid or should not be enforced against that third party. These lawsuits are expensive and would consume time and resources and divert the attention of managerial and scientific personnel even if we were successful in stopping the infringement of such patents. There is a risk that the court will decide that such patents are not valid and that we do not have the right to stop the other party from using the inventions. There is also the risk that, even if the validity of such patents is upheld, the court will refuse to stop the other party on the ground that such other party's activities do not infringe our rights to such patents. If we were not successful in defending our intellectual property, our competitors could develop and market products based on our discoveries, which may reduce demand for our products.

***We may infringe the intellectual property rights of others, which may prevent or delay our product development efforts and stop us from commercializing or increase the costs of commercializing our product candidates.***

Our success will depend in part on our ability to operate without infringing the proprietary rights of third parties. Our competitors may have filed, and may in the future file, patent applications covering products and technologies similar to ours. Any such patent application may have priority over our patent applications, which could further require us to obtain rights from third parties to issued patents covering such products and technologies. We cannot guarantee that the manufacture, use or marketing of ProTmune or any other product candidates that we develop, or the use of our cell programming technology, will not infringe third-party patents.

A third party may claim that we are using inventions covered by the third party's patent rights and may go to court to stop us from engaging in our normal operations and activities, including making or selling our product candidates. Patent litigation is costly and time consuming. We may not have sufficient resources to address these actions, and such actions could affect our results of operations and divert the attention of managerial and scientific personnel.

If a patent infringement suit were brought against us, we may be forced to stop or delay developing, manufacturing, or selling potential products that are claimed to infringe a third party's intellectual property rights, unless that third party grants us rights to use its intellectual property. In such cases, we may be required to obtain licenses to patents or proprietary rights of others in order to continue development, manufacture or sale of our products. If we are unable to obtain a license or develop or obtain non-infringing technology, or if we fail to defend an infringement action successfully, or if we are found to have infringed a valid patent, we may incur substantial monetary damages, encounter significant delays in bringing our product candidates to market and be precluded from manufacturing or selling our product candidates, any of which could harm our business significantly.

***We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed alleged trade secrets.***

As is common in the biotechnology and pharmaceutical industries, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants and independent contractors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we could lose valuable intellectual property rights or personnel, which could adversely affect our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

**Risks Related to the Commercialization of Our Product Candidates**

***We have limited marketing experience and do not have a sales force or distribution capabilities, and if our products are approved, we may be unable to commercialize them successfully.***

We currently have limited experience in marketing and selling therapeutic products. If any of our product candidates are approved for marketing, we intend to establish marketing and sales capabilities internally or we may selectively seek to enter into partnerships with other entities to utilize their marketing and distribution capabilities. If we are unable to develop adequate marketing and sales capabilities on our own or effectively partner with third parties, our product revenues will suffer.

***The commercial success of our product candidates will depend upon the degree of market acceptance by physicians, patients, third-party payers and others in the medical community.***

The commercial success of our products, if approved for marketing, will depend in part on the medical community, patients and third-party payers accepting our product candidates as effective and safe. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenue and may not become profitable. The degree of market acceptance of our products, if approved for marketing, will depend on a number of factors, including:

- the safety and efficacy of the products, and advantages over alternative treatments;
- the labeling of any approved product;
- the prevalence and severity of any side effects, including any limitations or warnings contained in a product's approved labeling;
- the emergence, and timing of market introduction, of competitive products;
- the effectiveness of our marketing strategy; and
- sufficient third-party insurance coverage or governmental reimbursement.

Even if a potential product displays a favorable efficacy and safety profile in preclinical studies and clinical trials, market acceptance of the product will not be known until after it is launched. Any failure to achieve market acceptance for our product candidates will harm our business, results and financial condition.

***We expect to face uncertainty regarding the pricing of ProTmune and any other product candidates that we may develop. If pricing policies for our product candidates are unfavorable, our commercial success will be impaired.***

Due to the targeted indication of HSCT procedures in general and our hematopoietic cell product candidates in particular, we face significant uncertainty as to the pricing of any such products for which we may receive marketing approval. While we anticipate that pricing for any cellular therapeutic product candidates that we develop will be relatively high due to their anticipated use in a one-time, potentially life-saving procedure with curative intent, the biopharmaceutical industry has recently experienced significant pricing pressures, including in the area of orphan drug products. In particular, drug pricing and other healthcare costs continue to be subject to intense political and societal pressures, which we anticipate will continue and escalate on a global basis. These pressures may result in harm to our business and reputation, cause our stock price to decline or experience periods of volatility and adversely affect results of operations and our ability to raise funds.

***The insurance coverage and reimbursement status of newly-approved products is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for new products could limit our product revenues.***

The availability and extent of reimbursement by governmental and private payers is essential for most patients to be able to afford expensive treatments, such as HSCT. There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products by government and third-party payers. In particular, there is no body of established practices and precedents for reimbursement of cellular therapeutics, and it is difficult to predict what the regulatory authority or private payer will decide with respect to reimbursement levels for novel products such as ours. Our products may not qualify for coverage or direct reimbursement and may be subject to limited reimbursement. If reimbursement or insurance coverage is not available, or is available only to limited levels, we may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be sufficient to allow us to establish or maintain pricing to generate income.

In addition, reimbursement agencies in foreign jurisdictions may be more conservative than those in the United States. Accordingly, in markets outside the United States, the reimbursement for our products may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenues and profits. Moreover, increasing efforts by governmental and third-party payers, in the United States and abroad, to cap or reduce healthcare costs may cause such organizations to limit both coverage and level of reimbursement for new products approved and, as a result, they may not cover or provide adequate payment for our product candidates. Failure to obtain or maintain adequate reimbursement for any products for which we receive marketing approval will adversely affect our ability to achieve commercial success.

***If the market opportunities for our product candidates are smaller than we believe they are, our revenues may be adversely affected and our business may suffer. Because the target patient populations of our product candidates are small, we must be able to successfully identify patients and capture a significant market share to achieve and maintain profitability.***

We focus our research and product development on treatments for orphan diseases and rare genetic disorders. Our projections of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to

benefit from treatment with our product candidates, are based on estimates. These estimates may prove to be incorrect, and new studies may change the estimated incidence or prevalence of these diseases. The number of patients in the United States, Europe and elsewhere may turn out to be lower than expected or may not be otherwise amenable to treatment with our products, or new patients may become increasingly difficult to identify or gain access to, all of which would adversely affect our results of operations and our business. Additionally, because our target patient populations are small, we will be required to capture a significant market share to achieve and maintain profitability.

**Risks Related to Our Business and Industry**

***The success of our product candidates, including ProTmune, is substantially dependent on developments within the field of HSCT and cellular immunotherapy, some of which are beyond our control.***

Our product candidates, including ProTmune, are designed and are being developed as therapeutic entities for use as cellular immunotherapies. Any adverse developments in the field of cellular therapeutics generally, and in the practice of HSCT in particular, will negatively affect our ability to develop and commercialize our product candidates. If the market for HSCT procedures declines or fails to grow at anticipated levels for any reason, or if the need for patients to undergo HSCT procedures is obviated due to the development and commercialization of therapeutics targeting the underlying cause of diseases addressed by HSCT, our business prospects will be significantly harmed.

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

The biotechnology and pharmaceutical industries are intensely competitive and subject to rapid and significant technological change. We face competition from biotechnology and pharmaceutical companies, universities, and other research institutions, and many of our competitors have greater financial and other resources, such as larger research and development staff and more experienced marketing and manufacturing organizations. In particular, there are several companies and institutions developing products that may obviate the need for HSCT, may be competitive to product candidates in our research and development pipeline, or may render our product candidates obsolete or noncompetitive. Should one or more of these products be successful, the market for our products may be reduced or eliminated, and we may not achieve commercial success.

***We may not be able to manage our business effectively if we are unable to attract and retain key personnel and consultants.***

We may not be able to retain or attract qualified management, finance, scientific and clinical personnel and consultants due to the intense competition for qualified personnel and consultants among biotechnology, pharmaceutical and other businesses. If we are not able to retain and attract necessary personnel and consultants to perform the requisite operational roles and accomplish our business objectives, we may experience constraints that will significantly impede the achievement of our development objectives, our ability to raise additional capital and our ability to implement our business strategy.

***If we fail to maintain an effective system of disclosure controls and procedures and internal controls, our ability to produce accurate financial statements or comply with applicable regulations could be impaired.***

As a public company, we are required to comply with the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, and the related rules and regulations of the SEC, expanded disclosure requirements, accelerated reporting requirements and more complex accounting rules. Company responsibilities required by the Sarbanes-Oxley Act include establishing and maintaining corporate oversight and adequate internal control over financial reporting and disclosure controls and procedures. Effective internal controls are necessary for us to produce reliable financial reports and are important to help prevent financial fraud.

We cannot assure that we will not have material weaknesses or significant deficiencies in our internal control over financial reporting. If we are unable to successfully remediate any material weakness or significant deficiency in our internal control over financial reporting, or identify any material weaknesses or significant deficiencies that may exist, the accuracy and timing of our financial reporting may be adversely affected, we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports in addition to applicable stock exchange listing requirements, and our stock price may decline materially as a result.

***We are party to a loan and security agreement that contains operating and financial covenants that may restrict our business and financing activities.***

In July 2014, we entered into an amended and restated loan and security agreement with Silicon Valley Bank, pursuant to which we have been extended term loans in the aggregate principal amount of $20.0 million. Borrowings under this loan and security

agreement are secured by substantially all of our assets, excluding certain intellectual property rights. The loan and security agreement restricts our ability, among other things, to:

- sell, transfer or otherwise dispose of any of our business or property, subject to limited exceptions;
- make material changes to our business or management;
- enter into transactions resulting in significant changes to the voting control of our stock;
- make certain changes to our organizational structure;
- consolidate or merge with other entities or acquire other entities;
- incur additional indebtedness or create encumbrances on our assets;
- pay dividends, other than dividends paid solely in shares of our common stock, or make distributions on and, in certain cases, repurchase our stock;
- enter into transactions with our affiliates;
- repay subordinated indebtedness; or
- make certain investments.

In addition, we are required under our loan agreement to maintain our deposit and securities accounts with Silicon Valley Bank and to comply with various operating covenants that may restrict our ability to finance our operations, engage in business activities or expand or fully pursue our business strategies. A breach of any of these covenants could result in a default under the loan and security agreement, which could cause all of the outstanding indebtedness under the facility to become immediately due and payable.

If we are unable to generate sufficient cash to repay our debt obligations when they become due and payable, we may not be able to obtain additional debt or equity financing on favorable terms, if at all, which may negatively affect our business operations and financial condition.

***We have entered into a strategic research collaboration and license agreement with Juno Therapeutics, Inc. to pursue the identification and application of small molecule modulators to program certain genetically-engineered T cells. Our collaboration may be terminated, or may not be successful, due to a number of factors, which could have a material adverse effect on our business and operating results.***

We are party to a strategic research collaboration and license agreement with Juno Therapeutics, Inc., or Juno, for the identification and application of small molecule modulators for programming the therapeutic properties of genetically-engineered chimeric antigen receptor (CAR) and T-cell receptor (TCR) based cellular immunotherapies directed against certain targets designated by Juno. Under the agreement, Juno has agreed to fund our collaboration research activities for an initial research term ending in May 2019, subject to a two-year extension under certain circumstances, and we are eligible to receive target selection fees and clinical, regulatory, and commercial milestones, as well as royalties on sales, should any therapies using our modulators be developed and commercialized. Our collaboration with Juno may be terminated, or may not be successful, due to a number of factors. For example, we may be unable to identify small molecule modulators that are effective in modulating genetically-engineered T-cell therapies, or Juno may elect not to develop any genetically-engineered T-cell therapies incorporating any modulators that are identified through the collaboration. If the collaboration is unsuccessful for these or other reasons, or is otherwise terminated for any reason, we may not receive all or any of the research program funding, target selection fees, milestone payments or royalties under the agreement. Any of the foregoing could result in a material adverse effect on our business, results of operations and prospects and would likely cause our stock price to decline.

In addition, during the term of our research activities under the agreement, we have agreed to collaborate exclusively with Juno on the research and development of small molecule modulators with respect to T cells that have been genetically-engineered to express chimeric antigen receptors or T-cell receptors against certain targets designated by Juno. Furthermore, during the term of the agreement, we will be unable to conduct, or enable third parties to conduct, research, development and commercialization activities using small molecule modulators to program T-cell therapies that have been genetically-engineered to express chimeric antigen receptors or T-cell receptors directed against certain targets selected by Juno. These restrictions may prevent us from exploiting our small molecule modulators or impair our ability to pursue research, development and commercialization opportunities that we would otherwise deem to be beneficial to our business.

***If we engage in an acquisition, reorganization or business combination, we will incur a variety of risks that could adversely affect our business operations or our stockholders.***

From time to time we have considered, and we will continue to consider in the future, strategic business initiatives intended to further the expansion and development of our business. These initiatives may include acquiring businesses, technologies or products or entering into a business combination with another company. If we pursue such a strategy, we could, among other things:

- issue equity securities that would dilute our current stockholders' percentage ownership;
- incur substantial debt that may place strains on our operations;
- spend substantial operational, financial and management resources to integrate new businesses, technologies and products;
- assume substantial actual or contingent liabilities;
- reprioritize our development programs and even cease development and commercialization of our product candidates; or
- merge with, or otherwise enter into a business combination with, another company in which our stockholders would receive cash or shares of the other company on terms that certain of our stockholders may not deem desirable.

Although we intend to evaluate and consider acquisitions, reorganizations and business combinations in the future, we have no agreements or understandings with respect to any acquisition, reorganization or business combination at this time.

***We face potential product liability exposure far in excess of our limited insurance coverage.***

The use of our product candidates in clinical trials and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by participants in clinical trials, consumers, healthcare providers, pharmaceutical companies or others selling or otherwise coming into contact with our product candidates. We carry product liability insurance and we believe our product liability insurance coverage is sufficient in light of our current clinical programs. In addition, if and when we obtain marketing approval for product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may be unable to obtain insurance coverage for any approved products on commercially reasonable terms or in sufficient amounts to protect us against losses due to liability.

On occasion, large judgments have been awarded in class action lawsuits based on drugs or medical treatments that had unanticipated adverse effects. In addition, under some of our agreements with clinical trial sites, we are required to indemnify the sites and their personnel against product liability and other claims. A successful product liability claim or series of claims brought against us or any third parties whom we are required to indemnify could cause our stock price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business.

Patients with the diseases targeted by our product candidates are often already in severe and advanced stages of disease and have both known and unknown significant pre-existing and potentially life-threatening health risks. During the course of treatment, patients may suffer adverse events, including death, for a variety of reasons. Such events, whether or not resulting from our product candidates, could subject us to costly litigation, require us to pay substantial amounts of money to injured patients, delay, negatively affect or end our opportunity to receive or maintain regulatory approval to market our products, or require us to suspend or abandon our commercialization efforts. Even in a circumstance in which we do not believe that an adverse event is related to our products, the investigation into the circumstance may be time-consuming or inconclusive. These investigations may interrupt our development and commercialization efforts, delay our regulatory approval process, or impact and limit the type of regulatory approvals our product candidates receive or maintain. As a result of these factors, a product liability claim, even if successfully defended, could have a material adverse effect on our business, financial condition or results of operations.

***We use hazardous chemicals, biological materials and infectious agents in our business. Any claims relating to improper handling, storage or disposal of these materials could be time consuming and costly.***

Our research and development and manufacturing processes involve the controlled use of hazardous materials, including chemicals, biological materials and infectious disease agents. Our operations produce hazardous waste products. We cannot eliminate the risk of accidental contamination or discharge and any resultant injury from these materials. We may be sued for any injury or contamination that results from our use or the use by third parties of these materials, and our liability may exceed our insurance coverage and our total assets.

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

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with the regulations of the FDA or foreign regulators, provide accurate information to the FDA or foreign regulators, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. Employee and independent contractor misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. If any actions alleging such conduct are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant effect on our business, including the imposition of significant fines or other sanctions.

**Risks Related to Our Financial Condition and the Ownership of Our Common Stock**

***We have a limited operating history, have incurred significant losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future.***

We are a clinical-stage biopharmaceutical discovery and development company, formed in 2007, with a limited operating history. We have not yet obtained regulatory approval for any product candidates or generated any revenues from therapeutic product sales. Since inception, we have incurred significant net losses in each year and as of June 30, 2016 we had an accumulated deficit of $159.2 million. We expect to continue to incur losses for the foreseeable future as we continue to fund our ongoing and planned clinical trials of ProTmune and our other ongoing and planned research and development activities. We also expect to incur significant operating and capital expenditures as we continue our development of, and seek regulatory approval for, our product candidates, in-license or acquire new product development opportunities, implement additional infrastructure and internal systems and hire additional scientific, clinical, and marketing personnel. We anticipate that our net losses for the next several years could be significant as we conduct our planned operations.

Because of the numerous risks and uncertainties associated with pharmaceutical and biological 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 profitability. In addition, our expenses could increase if we are required by the FDA, or comparable foreign regulatory authorities, to perform studies or trials in addition to those currently expected, or if there are any delays in completing our clinical trials, preclinical studies or the research and development of any of our product candidates. The amount of our future net losses will depend, in part, on the rate of increase in our expenses, our ability to generate revenues and our ability to raise additional capital. These net losses have had, and will continue to have, an adverse effect on our stockholders' equity and working capital.

***Our stock price is subject to fluctuation based on a variety of factors.***

The market price of shares of our common stock could be subject to wide fluctuations as a result of many risks listed in this section, and others beyond our control, including:

- the timing of the initiation of, and progress in, our current and planned clinical trials;
- the results of our clinical trials and preclinical studies, and the results of clinical trials and preclinical studies by others for product candidates or indications similar to ours;
- developments related to the FDA or to regulations applicable to cellular therapeutics generally or our product candidates in particular, including but not limited to regulatory pathways and clinical trial requirements for approvals;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- developments related to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- additions or departures of key management or scientific personnel;
- actual or anticipated changes in our research and development activities and our business prospects, including in relation to our competitors;
- developments of technological innovations or new therapeutic products by us or others in the field of cellular therapeutics or immunotherapeutics;
- announcements or expectations of additional equity or debt financing efforts;

- sales of our common stock by us, including pursuant to the terms of our stock purchase agreement with Juno Therapeutics, Inc., or by our insiders or our other stockholders;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- comments by securities analysts;
- fluctuations in our operating results; and
- general economic and market conditions.

These and other market and industry factors may cause the market price and demand for our common stock to fluctuate substantially, regardless of our actual operating performance, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In addition, the stock market in general, and The NASDAQ Global Market and pharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. In the past, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit and divert the time and attention of our management.

***Our principal stockholders exercise significant control over our company.***

As of August 5, 2016, our executive officers, directors and entities affiliated with our five percent stockholders beneficially own, in the aggregate, shares representing approximately 61% of our outstanding voting stock. Although we are not aware of any voting arrangements in place among these stockholders, if these stockholders were to choose to act together, as a result of their stock ownership, they would be able to influence our management and affairs and control all matters submitted to our stockholders for approval, including the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. This concentration of ownership may have the effect of delaying or preventing a change in control of our company or affecting the liquidity and volatility of our common stock, and might affect the market price of our common stock.

***We may sell additional equity or debt securities or enter into other arrangements to fund our operations, which may result in dilution to our stockholders and impose restrictions or limitations on our business.***

We expect that significant additional capital will be needed in the future to continue our planned operations, and we may seek additional funding through a combination of equity offerings, debt financings, government or other third-party funding and other collaborations, strategic alliances and licensing arrangements. These financing activities may have an adverse effect on our stockholders' rights, the market price of our common stock and on our operations, and may require us to relinquish rights to some of our technologies, intellectual property or product candidates, issue additional equity or debt securities, or otherwise agree to terms unfavorable to us. We have an effective shelf registration statement on file with the SEC that provides for the sale of up to $65.5 million in the aggregate of shares of our common stock, preferred stock, debt securities, warrants and/or units by us. Any such sale or issuance of securities may result in dilution to our stockholders and may cause the market price of our stock to decline, and new investors could gain rights superior to our existing stockholders. In addition, in July 2014, we entered into an amended and restated loan and security agreement with Silicon Valley Bank, which imposes restrictive covenants on our operations. Any future debt financings may impose additional restrictive covenants or otherwise adversely affect the holdings or the rights of our stockholders, and any additional equity financings will be dilutive to our stockholders. Furthermore, additional equity or debt financing might not be available to us on reasonable terms, if at all.

***We have broad discretion over the use of our cash and cash equivalents and may not use them effectively.***

Our management has broad discretion to use our cash and cash equivalents, and any additional funds that we may raise, to fund our operations 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 to fund operations, we may invest our cash and cash equivalents in a manner that does not produce income or that loses value.

***Provisions of Delaware law or our charter documents could delay or prevent an acquisition of our company, and could make it more difficult for you to change management.***

Provisions of Delaware law and our amended and restated certificate of incorporation and amended and restated bylaws may discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable, including

transactions in which stockholders might otherwise receive a premium for their shares. These provisions may also prevent or delay attempts by stockholders to replace or remove our current management or members of our board of directors. These provisions include:

- a classified board of directors with limitations on the removal of directors;
- advance notice requirements for stockholder proposals and nominations;
- the inability of stockholders to act by written consent or to call special meetings;
- the ability of our board of directors to make, alter or repeal our amended and restated bylaws; and
- the authority of our board of directors to issue preferred stock with such terms as our board of directors may determine.

As a result, these provisions could limit the price that investors are willing to pay in the future for shares of our common stock. These provisions might also discourage a potential acquisition proposal or tender offer, even if the acquisition proposal or tender offer is at a premium over the then-current market price for our common stock.

***Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited, and may result in increased future tax liability to us.***

Generally, a change of more than 50% in the ownership of a corporation's stock, by value, over a three-year period constitutes an ownership change for U.S. federal income tax purposes. An ownership change may limit a company's ability to use its net operating loss carryforwards and other pre-change tax attributes (such as research tax credits) attributable to the period prior to such change. We triggered an ownership change limitation in November 2009 and again in May 2015. We may also experience ownership changes in the future as a result of subsequent shifts in our stock ownership. As a result, if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards to offset U.S. federal taxable income may become subject to limitations, which could potentially result in increased future tax liability to us.

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

a) None.

b) None.

c) None.

**Item 3. Defaults Upon Senior Securities**

None.

**Item 4. Mine Safety Disclosure**

Not applicable.

**Item 5. Other Information**

None.

**Item 6. Exhibits**

See Exhibit Index.

**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.

**Fate Therapeutics, Inc.**

Date: August 8, 2016

By: /s/ J. Scott Wolchko
J. Scott Wolchko
President and Chief Executive Officer and Director
(Principal Executive Officer, Principal Financial Officer and Principal Accounting Officer)

**Index to Exhibits**

| Exhibit Number | Exhibit Title | Form | File No. | Exhibit | Filing Date |
|---|---|---|---|---|---|
| 3.1 | Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect | S-1/A | 333-190608 | 3.2 | August 29, 2013 |
| 3.2 | Amended and Restated Bylaws of the Registrant, as currently in effect | S-1/A | 333-190608 | 3.4 | August 29, 2013 |
| 4.1 | Specimen Common Stock Certificate | S-1/A | 333-190608 | 4.1 | August 29, 2013 |
| 10.1# | Amended and Restated Non-Employee Director Compensation Policy | — | — | — | Filed herewith |
| 10.2 | Fifth Amendment to Lease Agreement by and between the Registrant and ARE-3535/3565 General Atomics Court, dated June 1, 2016 | — | — | — | Filed herewith |
| 10.3# | Fate Therapeutics, Inc. Inducement Equity Plan | S-8 | 333-211484 | 99.1 | May 20, 2016 |
| 10.4# | Form of Stock Option Agreement under Fate Therapeutics, Inc. Inducement Equity Plan | S-8 | 333-211484 | 99.2 | May 20, 2016 |
| 10.5# | Form of Restricted Stock Unit Award Agreement under Fate Therapeutics, Inc. Inducement Equity Plan | S-8 | 333-211484 | 99.3 | May 20, 2016 |
| 31.1 | Certification of Principal Executive Officer and Principal Financial Officer pursuant to Rules 13a-14 and 15-d-14 promulgated pursuant to the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 | — | — | — | Filed herewith |
| 32.1 | Certification of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 | — | — | — | Filed herewith |
| 101.INS | XBRL Instance Document | — | — | — | Filed herewith |
| 101.SCH | XBRL Taxonomy Extension Schema Document | — | — | — | Filed herewith |
| 101.CAL | XBRL Taxonomy Extension Calculation Linkbase Document | — | — | — | Filed herewith |
| 101.DEF | XBRL Taxonomy Extension Definition Linkbase Document | — | — | — | Filed herewith |
| 101.LAB | XBRL Taxonomy Extension Label Linkbase Document | — | — | — | Filed herewith |
| 101.PRE | XBRL Taxonomy Extension Presentation Linkbase Document | — | — | — | Filed herewith |

# Indicates a management contract or any compensatory plan, contract or arrangement.

**Exhibit 10.1**

FATE THERAPEUTICS, INC.

AMENDED AND RESTATED NON-EMPLOYEE DIRECTOR COMPENSATION POLICY

The purpose of this Amended and Restated Non-Employee Director Compensation Policy (the "Policy") of Fate Therapeutics, Inc., a Delaware corporation (the "Company"), is to provide a total compensation package that enables the Company to attract and retain, on a long-term basis, high-caliber directors who are not employees or officers of the Company. In furtherance of this purpose, effective as of the date of approval by the Company's Board of Directors (the "Board") of this Policy (the "Effective Date"), all non-employee directors shall be paid compensation for services provided to the Company as set forth below:[1]

**Cash Retainers**

Annual Retainer for Board Membership: $35,000 for general availability and participation in meetings and conference calls of the Board. No additional compensation for attending individual Board meetings.

Additional Annual Retainers for Committee Membership and Service as Chairperson:

| | |
|---|---|
| Board Chairperson: | $35,000 |
| Audit Committee Chairperson: | $15,000 |
| Audit Committee member: | $7,500 |
| Compensation Committee Chairperson: | $10,000 |
| Compensation Committee member: | $5,000 |
| Nominating and Corporate Governance Committee Chairperson: | $7,000 |
| Nominating and Corporate Governance Committee member: | $3,500 |

No additional compensation for attending individual committee meetings.

All cash retainers will be paid quarterly, in arrears, or upon the earlier resignation or removal of the non-employee director. Cash retainers owing to non-employee directors shall be annualized, meaning that with respect to non-employee directors who join the Board during the calendar year, such amounts shall be pro-rated based on the number of calendar days served by such director.

[1] This policy shall supersede any prior arrangements between the Company and the directors.

**Equity Retainers**

Initial Equity Grant: One-time option grant to each new non-employee director upon his/her election to the Board after the Effective Date to purchase 37,500 shares of the Company's common stock, par value $0.001 per share ("Common Stock"). Such initial equity grant shall vest in equal monthly installments during the 36 months following the grant date, subject to the director's continued service on the Board.

On the date of each Annual Meeting of Stockholders: Annual option grant to each non-employee director serving on the Board immediately following the Company's annual meeting of stockholders to purchase 25,000 shares of Common Stock. Such annual equity grant shall vest on the earlier of the one-year anniversary of the grant date and the Company's next annual meeting of stockholders, subject to the director's continued service on the Board.

The form of option agreement will give directors up to one year following cessation of service as a director to exercise the options (to the extent vested at the date of such cessation), provided that the director has not been removed for cause.

All of the foregoing option grants will have an exercise price equal to the fair market value of a share of Common Stock on the date of grant.

**Expenses**

The Company shall reimburse all reasonable out-of-pocket expenses incurred by non-employee directors in attending Board and committee meetings.

*Amended and Restated Non-Employee Director Compensation Policy adopted by the Board of Directors on May 10, 2016.*

**Exhibit 10.2**

**FIFTH AMENDMENT TO LEASE AGREEMENT**

THIS FIFTH AMENDMENT TO LEASE AGREEMENT (this "**Fifth Amendment**") is made as of June 01, 2016, by and between **ARE-3535/3565 GENERAL ATOMICS COURT, LLC,** a Delaware limited liability company **("Landlord"),** and **FATE THERAPEUTICS, INC.,** a Delaware corporation **("Tenant").**

**RECITALS**

**A.** Landlord and Tenant are now parties to that certain Lease Agreement dated as of December 3, 2009, as amended by that certain First Amendment to Lease Agreement dated as of October 1, 2011, as amended by that certain Second Amendment to Lease Agreement dated as of September 30, 2013, as amended by that certain Third Amendment to Lease Agreement dated as of September 2, 2014, and as further amended by that certain Fourth Amendment to Lease dated as of March 2, 2015 (as amended, the "**Lease**")**.** Pursuant to the Lease, Tenant leases certain premises consisting of approximately 23, 684 rentable square feet **("Existing Premises")** on the first and second floors of that certain building located at 3535 General Atomics Court, San Diego, California. The Existing Premises are more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

**B.** Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease to, among other things, expand the size of the Existing Premises by adding that portion of the Building containing approximately 24, 240 rentable square feet, as shown on **Exhibit A** attached to this Fifth Amendment (the **"Second Expansion Premises").**

**NOW, THEREFORE,** in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

**1.** **Second Expansion Premises.** In addition to the Existing Premises, commencing on the Second Expansion Premises Commencement Date, Landlord leases to Tenant, and Tenant leases from Landlord, the Second Expansion Premises.

**2.** **Delivery.** Landlord shall use reasonable efforts to deliver the Second Expansion Premises to Tenant on or before the Target Second Expansion Premises Commencement Date (which date shall be subject to Force Majeure delays and Tenant Delays) with Landlord's Work Substantially Completed **("Delivery**" or "**Deliver")**. If Landlord fails to timely Deliver the Second Expansion Premises, Landlord shall not be liable to Tenant for any loss or damage resulting therefrom, and the Lease with respect to the Second Expansion Premises shall not be void or voidable. As used herein, the terms "**Landlord's Work**," "**Tenant Delays**" and "**Substantially Completed**" shall have the meanings set forth for such terms in the work letter attached to this Fifth Amendment as **Exhibit C ("Second Expansion Premises Work Letter").**

The "**Second Expansion Premises Commencement Date**" shall be the earlier to occur of: (i) the date that Landlord delivers the Second Expansion Premises to Tenant, or (ii) the date that Landlord could have delivered to Second Expansion Premises to Tenant but for Tenant Delays; provided, however, that in no event shall the Second Expansion Premises Commencement Date occur prior to February 1, 2017. The "**Target Second Expansion Premises Commencement Date**" shall be February 1, 2017. Upon request of Landlord, Tenant shall (absent manifest error) execute and deliver a written acknowledgment of the Second Expansion Premises Commencement Date and the expiration date in a form substantially similar to the form of the "Acknowledgement of Commencement Date" attached to the Lease as **Exhibit D**; provided, however, Tenant's failure to execute and deliver such acknowledgment shall not affect Landlord's rights hereunder.

Except as set forth in the Second Expansion Premises Work Letter: (i) Tenant shall accept the Second Expansion Premises in their condition as of the Second Expansion Premises Commencement Date, subject to all applicable Legal Requirements; (ii) Landlord shall have no obligation for any defects in the Second Expansion Premises; and (iii) Tenant's taking possession of the Second Expansion Premises shall be conclusive evidence that Tenant accepts the Second Expansion Premises and that the Second Expansion Premises were in good condition at the time possession was taken.

Tenant agrees and acknowledges that, except as otherwise expressly set forth in this Fifth Amendment, neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of all or any portion of the Second Expansion Premises, and/or the suitability of the Second Expansion Premises for the conduct of Tenant's business, and Tenant waives any implied warranty that the Second Expansion Premises are suitable for the Permitted Use.

**3.** **Premises; Rentable Area of Premises and Building.** As of Second Expansion Premises Commencement Date, the defined terms "**Premises**," "**Rentable Area of Premises**" and "**Rentable Area of Building**" on page 1 of the Lease shall be deleted in their entirety and replaced with the following:

"**Premises:** That portion of the Building, containing approximately 47,924 rentable square feet, consisting of (i) approximately 18,813 rentable square feet located on the western half of the second floor of the Building ("**Second Floor Premises**"), (ii) approximately 4,871 rentable square feet located on the first floor of the Building ("**Expansion Premises**"), and (iii) approximately 24,240 rentable square feet located on the second floor of the Building ( "**Second Expansion Premises**"), all as determined by Landlord, as shown on **Exhibit A**."

"**Rentable Area of Premises:** 47,924 sq. ft."

"**Rentable Area of Building:** 75,221 sq. ft."

As of the date Second Expansion Premises Commencement Date, **Exhibit A** to the Lease shall be amended to include the Second Expansion Premises as shown on **Exhibit A** attached to this Fifth Amendment.

**4.** **Rentable Area of Project.** As of Second Expansion Premises Commencement Date, the defined term **"Project"** on page 1 of the Lease shall be deleted in its entirety and replaced with the following:

"**Rentable Area of Project:** 220,987 sq. ft."

As of the Second Expansion Premises Commencement Date, **Exhibit B** to the Lease shall be deleted in its entirety and shall be replaced by **Exhibit B** attached to this Fifth Amendment.

**5.** **Base Rent.**

a. **Existing Premises**. Tenant shall continue paying Base Rent with respect to the Existing Premises pursuant to the terms of the Lease through September 30, 2017. Commencing on October 1, 2017, through December 31, 2017, Tenant shall continue to pay Base Rent at the same rate payable per rentable square foot of the Existing Premises payable by Tenant for the month of September 2017. Commencing on January 1, 2018, and on each January 1st thereafter during the Base Term (each, an "**Adjustment Date**"), Base Rent payable with respect to the Existing Premises shall be increased by multiplying the Base Rent payable with respect to the Existing Premises immediately before such Adjustment Date by 3% (the "**Rent Adjustment Percentage**") and adding the resulting amount to the Base Rent payable with respect to the Existing Premises immediately before such Adjustment Date. Base Rent with respect to the Existing Premises, as so adjusted, shall thereafter be due as provided herein.

b. **Second Expansion Premises**. Commencing on the Second Expansion Premises Commencement Date, Tenant shall pay Base Rent with respect to the Second Expansion Premises in the amount of $3.85 per rentable square foot of the Second Expansion Premises per month. On each Adjustment Date, Base Rent payable with respect to the Second Expansion Premises shall be increased by multiplying the Base Rent payable with respect to the Second Expansion Premises immediately before such Adjustment Date by the Rent Adjustment Percentage and adding the resulting amount to the Base Rent payable with respect to the Second Expansion Premises immediately before such Adjustment Date. Base Rent with respect to the Second Expansion Premises, as so adjusted, shall thereafter be due as provided herein.

Notwithstanding anything to the contrary contained herein, so long as no Default has occurred and is continuing under the Lease, Tenant shall not be required to pay Base Rent with respect to the Second Expansion Premises for the period commencing on the Second Expansion Premises Commencement Date through the expiration of the 12th month following the Second Expansion Premises Commencement Date (the "**Abatement Period**"). Tenant shall commence paying full Base Rent with respect to the Second Expansion Premises, as adjusted pursuant to this

Section 4(b), on the first day of the 13th month after the Second Expansion Premises Commencement Date. Notwithstanding anything to the contrary contained herein, Tenant shall continue to pay Operating Expenses, Utilities and janitorial expenses for the Premises (the Existing Premises and the Second Expansion Premises) during the Abatement Period. For the avoidance of doubt, during the Abatement Period, Tenant shall be required to pay administration rent each month equal to the amount of the administration rent that Tenant would have been required to pay pursuant to Section 5 of the original Lease in the absence of there being an Abatement Period with respect to Second Expansion Premises.

**6.** **Tenant's Share; Building's Share**. As of the Second Expansion Premises Commencement Date, the defined terms "**Building's Share of Project**," "**Tenant's Share of Operating Expenses for the Building**" and "**Tenant's Share of Operating Expenses for the Project**" on page 1 of the Lease shall be deleted in their entirety and replaced with the following:

"**Building's Share of Project:** 34.04%

"**Tenant's Share of Operating Expenses for the Building:** 63.71%"

"**Tenant's Share of Operating Expenses for the Project:** 21.69%"

For the avoidance of doubt, Tenant acknowledges and agrees that the Operating Expenses payable under the Lease include Tenant's Share of costs and expenses incurred in connection with the Common Area amenities at the Project including, without limitation, any subsidies which Landlord may provide in connection with such Common Area amenities.

Except for the Amenities Fee (as such term is defined in Section 8(b) below), Landlord's costs relating to The Alexandria and/or the Amenities (as such terms are defined in Section 8(a) below) shall be excluded from Operating Expenses. Notwithstanding the foregoing, Tenant shall be obligated to pay for all services and items payable by Tenant in connection with its use of The Alexandria or the Amenities including, without limitation, services and items payable by Tenant pursuant to Section 8 below, any use agreements relating to Tenant's use of The Alexandria and/or the Amenities and any other agreements executed by Tenant in connection with the use of The Alexandria and/or the Amenities.

**7.** **Base Term.** As of the date Second Expansion Premises Commencement Date, the defined term "**Base Term**" on page 1 of the Lease shall be deleted in its entirety and replaced with the following:

"**Base Term:** Commencing (i) with respect to the Second Floor Premises on June 10, 2010, (ii) with respect to the Expansion Premises on the Expansion Premises Commencement Date, and (iii) with respect to the Second Expansion Premises on the Second Expansion Premises Commencement Date, and ending with respect to the entire Premises on June 30, 2023."

**8.** **The Alexandria Amenities.**

a. **Generally**. ARE-SD Region No. 17, LLC, a Delaware limited liability company ("**The Alexandria Landlord**") has constructed certain amenities at the property owned by The Alexandria Landlord located at 10996 Torreyana Road, San Diego, California ("**The Alexandria**"), which include, without limitation, shared conference facilities ("**Shared Conference Facilities**"), a fitness center ("**Fitness Center**") and restaurant (collectively, the "**Amenities**") for non-exclusive use by (a) Tenant, (b) other tenants of the Project, (c) Landlord, (d) the tenants of The Alexandria Landlord, (e) The Alexandria Landlord, (e) other affiliates of Landlord, The Alexandria Landlord and Alexandria Real Estate Equities, Inc. ("**ARE**"), (f) the tenants of such other affiliates of Landlord, The Alexandria Landlord and ARE, and (g) any other parties permitted by The Alexandria Landlord (collectively, "**Users**"). Landlord, The Alexandria Landlord, ARE, and all affiliates of Landlord, Torreyana and ARE may be referred to collectively herein as the "**ARE Parties**." Notwithstanding anything to the contrary contained herein, Tenant acknowledges and agrees that The Alexandria Landlord shall have the right, at the sole discretion of The Alexandria Landlord, to not make the Amenities available for use by some or all currently contemplated Users (including Tenant). The Alexandria Landlord shall have the sole right to determine all matters related to the Amenities including, without limitation, relating to the reconfiguration, relocation, modification or removal of any of the Amenities at The Alexandria and/or to revise, expand or discontinue any of the services (if any) provided in connection with the Amenities. Tenant acknowledges and agrees that Landlord has not made any representations or warranties regarding the availability of any of the Amenities and that Tenant is not entering into this Fifth Amendment relying on the continued availability of the Amenities to Tenant.

b. **License**. Commencing on the Second Expansion Premises Commencement Date, and so long as The Alexandria and the Project continue to be owned by affiliates of ARE, Tenant shall have the non-exclusive right to the use of the available Amenities in common with other Users pursuant to the terms of this Section 8. Fitness center passes shall be issued to Tenant for all full time employees of Tenant employed at the Premises. Commencing on the Second Expansion Premises Commencement Date, Tenant shall commence paying Landlord a fixed fee during the Base Term equal to $0.10 per rentable square foot of the Premises (the Existing Premises and the Second Expansion Premises) per month ("**Amenities Fee**"), which Amenities Fee shall by payable on the first day of each month during the Term whether or not Tenant elects to use any or all of the Amenities. The Amenities Fee shall be increased annually on the Adjustment Date by 3% including, if applicable, during each Extension Term. If both the Shared Conference Facilities and the Fitness Center become materially unavailable for use by Tenant (for any reason other than a Default by Tenant under this Lease or the default by Tenant of any agreement(s) relating to the use of the Amenities by Tenant) for a period in excess of 30 consecutive days, then, commencing on the date that both the Shared Conference Facilities and the Fitness Center in their entirety become materially unavailable for use by Tenant and continuing for the period that both the Shared Conference Facilities and the Fitness Center in their entirety remain materially unavailable for use by Tenant, the Amenities Fee then-currently payable by Tenant shall be abated.

c. **Shared Conference Facilities**. Use by Tenant of the Shared Conference Facilities and restaurant at The Alexandria shall be in common with other Users with scheduling procedures reasonably determined by The Alexandria Landlord. The Alexandria Landlord reserves the right to exercise its reasonable discretion in the event of conflicting scheduling requests among Users. Tenant hereby acknowledges that (i) Biocom/San Diego, a California non-profit corporation ("**Biocom**") has the right to reserve the Shared Conference Facilities and any reservable dining area(s) included within the Amenities for up to 50% of the time that such Shared Conference Facilities and reservable dining area(s) are available for use by Users each calendar month, and (ii) Illumina, Inc., a Delaware corporation, has the exclusive use of the main conference room within the Shared Conference Facilities for up to 4 days per calendar month.

Any vendors engaged by Tenant in connection with Tenant's use of the Shared Conference Facilities shall be professional licensed vendors. The Alexandria Landlord shall have the right to approve any vendors utilized by Tenant in connection with Tenant's use of the Shared Conference Facilities. Prior to any entry by any such vendor onto The Alexandria, Tenant shall deliver to Landlord a copy of the contract between Tenant and such vendor and certificates of insurance from such vendor evidencing industry standard commercial general liability, automotive liability, and workers' compensation insurance. Tenant shall cause all such vendors utilized by Tenant to provide a certificate of insurance naming Landlord, ARE, and The Alexandria Landlord as additional insureds under the vendor's liability policies. Notwithstanding the foregoing, Tenant shall be required to use the food service operator used by The Alexandria Landlord at The Alexandria for any food service or catered events held by Tenant in the Shared Conference Facilities.

Tenant shall, at Tenant's sole cost and expense, (i) be responsible for the set-up of the Shared Conference Facilities in connection with Tenant's use (including, without limitation ensuring that Tenant has a sufficient number of chairs and tables and the appropriate equipment), and (ii) surrender the Shared Conference Facilities after each time that Tenant uses the Shared Conference Facilities free of Tenant's personal property, in substantially the same set up and same condition as received, and free of any debris and trash. If Tenant fails to restore and surrender the Shared Conference Facilities as required by sub-section (ii) of the immediately preceding sentence, such failure shall constitute a "**Shared Facilities Default**." Each time that Landlord reasonably determines that Tenant has committed a Shared Facilities Default, Tenant shall be required to pay Landlord a penalty within 5 days after notice from Landlord of such Shared Facilities Default. The penalty payable by Tenant in connection with the first Shared Facilities Default shall be $200. The penalty payable shall increase by $50 for each subsequent Shared Facilities Default (for the avoidance of doubt, the penalty shall be $250 for the second Shared Facilities Default, shall be $300 for the third Shared Facilities Default, etc.). In addition to the foregoing, Tenant shall be responsible for reimbursing The Alexandria Landlord or Landlord, as applicable, for all costs expended by The Alexandria Landlord or Landlord, as applicable, in repairing any damage to the Shared Conference Facilities, the Amenities, or The Alexandria caused by Tenant or any Tenant Related Party. The provisions of this Section 7(c) shall survive the expiration or earlier termination of the Lease.

d. **Rules and Regulations**. Tenant shall be solely responsible for paying for any and all ancillary services (e.g., audio visual equipment) provided to Tenant, all food services operators and any other third party vendors providing services to Tenant at The Alexandria. Tenant shall use the Amenities (including, without limitation, the Shared Conference Facilities) in compliance with all applicable Legal Requirements and any reasonable rules and regulations imposed by The Alexandria Landlord or Landlord from time to time and in a manner that will not interfere with the rights of other Users. The use of Amenities other than the Shared Conference Facilities by employees of Tenant shall be in accordance with the terms and conditions of the standard licenses, indemnification and waiver agreement in each case as reasonably required by The Alexandria Landlord or the operator of the Amenities to be executed by all persons wishing to use such Amenities. Neither The Alexandria Landlord nor Landlord (nor, if applicable, any other affiliate of Landlord) shall have any liability or obligation for the breach of any rules or regulations by other Users with respect to the Amenities. Tenant shall not make any alterations, additions, or improvements of any kind to the Shared Conference Facilities, the Amenities or The Alexandria.

Tenant acknowledges and agrees that The Alexandria Landlord shall have the right at any time and from time to time to reconfigure, relocate, modify or remove any of the Amenities at The Alexandria and/or to revise, expand or discontinue any of the services (if any) provided in connection with the Amenities.

e. **Waiver of Liability and Indemnification**. Tenant warrants that it will use reasonable care to prevent damage to property and injury to persons while on The Alexandria. Tenant waives any claims it or any Tenant Parties may have against any ARE Parties relating to, arising out of or in connection with the Amenities and any entry by Tenant and/or any Tenant Parties onto The Alexandria, and Tenant releases and exculpates all ARE Parties from any liability relating to, arising out of or in connection with the Amenities and any entry by Tenant and/or any Tenant Parties onto The Alexandria, except to the extent caused by the willful misconduct or negligence of any ARE Party. Tenant hereby agrees to indemnify, defend, and hold harmless the ARE Parties from any claim of damage to property or injury to person relating to, arising out of or in connection with (i) the use of the Amenities by Tenant or any Tenant Parties, and (ii) any entry by Tenant and/or any Tenant Parties onto The Alexandria, except to the extent caused by the willful misconduct or negligence of any ARE Party. The provisions of this Section 7 shall survive the expiration or earlier termination of the Lease.

f. **Insurance**. As of the Amenities Commencement Date, Tenant shall cause The Alexandria Landlord to be named as an additional insured under the commercial general liability policy of insurance that Tenant is required to maintain pursuant to Section 17 of the original Lease.

**9. Right to Expand.**

a. **Right of First Refusal**. So long as Tenant is then leasing and occupying no less than 100% of the Premises, each time during the Base Term that Landlord intends to accept a written proposal or deliver a proposal or counter proposal which Landlord would be willing to accept (the "**Pending Deal**") to lease all or a portion of the ROFR Space (as hereinafter defined) to a third party, Landlord shall deliver to Tenant written notice (the "**Pending Deal Notice**") of the existence of such Pending Deal and the material terms of such Pending Deal (which material terms shall include the proposed rental rate for the ROFR Space). For purposes of this Section 9(a), "**ROFR Space**'' shall mean that certain approximately 24,925 rentable square feet space on the first floor of the Building described on **Exhibit D** attached hereto, which is not occupied by a tenant or which is occupied by a then existing tenant that does not wish to renew (whether or not such tenant has a right to renew) its occupancy of such space. Tenant shall be entitled to exercise its right under this Section 9(a) only with respect to the entire ROFR Space described in such Pending Deal Notice ("**Identified Space**"). Within 10 days after Tenant's receipt of the Pending Deal Notice, Tenant shall deliver to Landlord written notice (the "**Space Acceptance Notice**") if Tenant elects to lease the Identified Space. Tenant's right to receive the Pending Deal Notice and election to lease or not lease the Identified Space pursuant to this Section 9(a) is hereinafter referred to as the "**Right of First Refusal**." If Tenant elects to lease the Identified Space described in the Pending Deal Notice by delivering the Space Acceptance Notice within the required 10 day period, Tenant shall be deemed to agree to lease the Identified Space on the same general terms and conditions as the Lease except that the terms of the Lease shall be modified to reflect the terms of the Pending Deal Notice for the rental of the Identified Space. Tenant acknowledges that the term of the Lease with respect to the Identified Space and the Term of the Lease with respect to the then-existing Premises may not be co-terminous. Notwithstanding anything to the contrary contained herein, in no event shall the Work Letter or the Second Expansion Premises Work Letter apply to the Identified Space. If Tenant fails to deliver a Space Acceptance Notice to Landlord within the

required 10 day period, Tenant shall be deemed to have waived its rights under this Section 9(a) to lease the Identified Space, and Landlord shall have the right to lease the Identified Space to any third party on any terms and conditions acceptable to Landlord. Notwithstanding the foregoing, Tenant's Right of First Refusal shall be immediately restored, and Landlord shall deliver to Tenant an additional Pending Deal Notice in accordance with this Section 9(a), with respect to the Identified Space if (i) Landlord fails to enter into an agreement to lease the Identified Space to a third party within 6 months after Landlord's delivery to Tenant of the Pending Deal Notice applicable to such Identified Space ("**Free Period**"), or (ii) if at any time within such Free Period, Landlord intends to lease the Identified Space to a third party at an effective base rental rate for the Identified Space which is less than 95% of the effective base rental rate provided for in the Pending Deal Notice applicable to such Identified Space. Tenant's Right of First Refusal shall be ongoing during the Base Term; provided, however that Tenant shall have no right to exercise the Right of First Refusal and the provisions of this Section 9(a) shall no longer apply after the date that is 9 months prior to the expiration of the Base Term if Tenant has not exercised its first Extension Right pursuant to Section 10.

b. **Amended Lease**. If Tenant fails to timely deliver a Space Exercise Notice, then Tenant shall be deemed to have waived its right to Lease such Identified Space subject to the terms of Section 9(a). If Landlord tenders to Tenant an amendment to the Lease setting forth the terms for the rental of the Identified Space consistent with those set forth in the Pending Deal Notice and otherwise consistent with the terms of the Lease and Tenant fails to execute such Lease amendment within 15 business days following such tender, Tenant shall be deemed to have forever waived its right to lease such Identified Space.

c. **Exceptions**. Notwithstanding the above, the Right of First Refusal shall, at Landlord's option, not be in effect and may not be exercised by Tenant:

(i) during any period of time that Tenant is in Default under any provision of the Lease; provided, however, that Landlord has provided written notice to Tenant of such Default in accordance with the Lease; or

(ii) if Tenant has been in Default under any provision of the Lease 3 or more times, whether or not the Defaults are cured, during the 12 month period prior to the date on which Tenant seeks to exercise the Right of First Refusal; provided, however, that Landlord has provided written notice to Tenant of each such Default in accordance with the Lease.

d. **Termination**. The Right of First Refusal shall, at Landlord's option, terminate and be of no further force or effect even after Tenant's due and timely exercise of the Right of First Refusal if, after such exercise, but prior to the commencement date of the lease of the Identified Space, (i) Tenant fails to timely cure any Default by Tenant under the Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of the Right of First Refusal to the date of the commencement of the lease of the Identified Space, whether or not such Defaults are cured; provided, however, that in each such case, Landlord has provided written notice to Tenant of each such Default in accordance with the Lease.

e. **Rights Personal**. The Right of First Refusal is personal to Tenant and is not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in the Lease, except that they may be assigned in connection with any Permitted Assignment of the Lease.

f. **No Extensions**. The period of time within which the Right of First Refusal may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Right of First Refusal.

**10. Right to Extend Term**. Tenant shall have the right to extend the Term of the Lease upon the following terms and conditions:

a. **Extension Rights**. Tenant shall have 2 consecutive rights (each, an "**Extension Right**") to extend the term of the Lease for 2 years each (each, an "**Extension Term**") on the same terms and conditions as the Lease (other than with respect to Base Rent, the Work Letter and the Second Expansion Premises Work Letter) by giving Landlord written notice of its election to exercise each Extension Right at least 9 months prior to the expiration of the Base Term of the Lease or the expiration of the first Extension Term.

Base Rent shall be adjusted on the commencement date of such Extension Term and on each annual anniversary of the commencement of such Extension Term by multiplying the Base Rent payable immediately before such adjustment by the Rent Adjustment Percentage and adding the resulting amount to the Base Rent payable immediately before such adjustment.

b. **Rights Personal**. Extension Rights are personal to Tenant and are not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in the Lease, except that they may be assigned in connection with any Permitted Assignment of the Lease.

c. **Exceptions**. Notwithstanding anything set forth above to the contrary, Extension Rights shall, at Landlord's option, not be in effect and Tenant may not exercise any of the Extension Rights:

(i) during any period of time that Tenant is in Default under any provision of the Lease; or

(ii) if Tenant has been in Default under any provision of the Lease 3 or more times, whether or not the Defaults are cured, during the 12 month period immediately prior to the date that Tenant intends to exercise an Extension Right, whether or not the Defaults are cured.

d. **No Extensions**. The period of time within which any Extension Rights may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Extension Rights.

e. **Termination**. The Extension Rights shall, at Landlord's option, terminate and be of no further force or effect even after Tenant's due and timely exercise of an Extension Right, if, after such exercise, but prior to the commencement date of an Extension Term, (i) Tenant fails to timely cure any default by Tenant under the Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of an Extension Right to the date of the commencement of the Extension Term, whether or not such Defaults are cured.

**11. Events of Default.**

a. Section 20(e) of the Lease is hereby deleted in its entirety and replaced with the following:

"(e) **Liens**. Tenant shall fail to discharge or otherwise obtain the release of any lien placed upon the Premises in violation of this Lease within ten (10) days after Tenant receives notice that any such lien is filed against the Premises."

b. Section 20(h) of the Lease is hereby deleted in its entirety and replaced with the following:

"(h) **Other Defaults**. Tenant shall fail to comply with any provision of this Lease other than those specifically referred to in this Section 20 and, except as otherwise expressly provided herein, such failure shall continue for a period of thirty (30) days after written notice thereof from Landlord to Tenant.

Any notice given under Section 20(h) hereof shall: (i) specify the alleged default, (ii) demand that Tenant cure such default, (iii) be in lieu of, and not in addition to, or shall be deemed to be, any notice required under any provision of applicable law, and (iv) not be deemed a forfeiture or a termination of this Lease unless Landlord elects otherwise in such notice; provided that if the nature of Tenant's default pursuant to Section 20(h) is such that it cannot be cured by the payment of money and reasonably requires more than thirty (30) days to cure, then Tenant shall not be deemed to be in default if Tenant commences such cure within said thirty (30) day period and thereafter diligently prosecutes the same to completion; provided, however, that such cure shall be completed no later than ninety (90) days from the date of Landlord's notice."

**12. Parking**. Section 10 of the Lease is hereby deleted in its entirety and replaced with the following:

"10. **Parking**. Subject to all matters of record, Force Majeure, a Taking (as defined in Section 19 below) and the exercise by Landlord of its rights hereunder, Tenant shall have the right, in common with other tenants of the Project pro rata in accordance with the rentable area of the Premises and the rentable areas of the Project occupied by such other tenants, to park in those areas designated for non-reserved parking at no additional cost to Tenant under this Lease during the Term, subject in each case to Landlord's rules and regulations. Landlord shall specifically allocate parking spaces among Tenant and other tenants in the Project pro rata as described above if

Landlord reasonably determines that such parking facilities are becoming crowded. Tenant's pro rata share of parking spaces shall include, at no additional cost to Tenant, 21 covered parking spaces in the parking area located under the Building, which shall be marked by Landlord, at Landlord's cost, as reserved for Tenant's use. Landlord shall not be responsible for enforcing Tenant's parking rights against any third parties, including other tenants of the Project or enforcing any reservation of parking spaces."

**13.** **HazMat Safety Building**. As of the Second Expansion Premises Commencement Date, the second paragraph of Section 30(g) of the Lease is hereby deleted and replaced with the following:

"Tenant shall have the right to use each Tenant Safety Building Space through the expiration or earlier termination of this Lease. "

**14.** **Disclosure**. For purposes of Section 1938 of the California Civil Code, as of the date of this Fifth Amendment, Tenant acknowledges having been advised by Landlord that the Project has not been inspected by a certified access specialist.

**15.** **OFAC**. Tenant is currently (a) in compliance with and shall at all times during the Term of the Lease remain in compliance with the regulations of the Office of Foreign Assets Control ("**OFAC**") of the U.S. Department of Treasury and any statute, executive order, or regulation relating thereto (collectively, the "**OFAC Rules**"), (b) not listed on, and shall not during the term of the Lease be listed on, the Specially Designated Nationals and Blocked Persons List, Foreign Sanctions Evaders List, or the Sectoral Sanctions Identification List, which are all maintained by OFAC and/or on any other similar list maintained by OFAC or other governmental authority pursuant to any authorizing statute, executive order, or regulation, and (c) not a person or entity with whom a U. S. person is prohibited from conducting business under the OFAC Rules.

**16.** **Brokers**. Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with the transaction reflected in this Fifth Amendment and that no Broker brought about this transaction, other than Hughes Marino and Cushman & Wakefield. Landlord and Tenant each hereby agrees to indemnify and hold the other harmless from and against any claims by any Broker, other than Hughes Marino and Cushman & Wakefield claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this Fifth Amendment.

**17.** **Miscellaneous**.

a. This Fifth Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This Fifth Amendment may be amended only by an agreement in writing, signed by the parties hereto.

b. This Fifth Amendment is binding upon and shall inure to the benefit of the parties hereto, and their respective successors and assigns.

c. This Fifth Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except having additional signature pages executed by other parties to this Fifth Amendment attached thereto.

d. Except as amended and/or modified by this Fifth Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this Fifth Amendment. In the event of any conflict between the provisions of this Fifth Amendment and the provisions of the Lease, the provisions of this Fifth Amendment shall prevail. Whether or not specifically amended by this Fifth Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this Fifth Amendment.

**[Signatures are on the next page.]**

**IN WITNESS WHEREOF**, the parties hereto have executed this Fifth Amendment as of the day and year first above written.

**LANDLORD:**

**ARE-3535/3565 GENERAL ATOMICS COURT, LLC,**
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, INC.,
a Maryland corporation,
managing member

By: /s/ Gary Dean
Its: Gary Dean
Senior Vice President
RE Legal Affairs

**TENANT:**

**FATE THERAPEUTICS, INC.,**
a Delaware corporation

By: /s/ Scott Wolchko
Name: Scott Wolchko
Title: CEO

**EXHIBIT A**

**Second Expansion Premises**

[Graphic]

**EXHIBIT B**

**The Project**

**PARCELS 1 & 2 IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA AS SHOWN AT PAGE 16665 OF PARCEL MAPS FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, OCTOBER 24, 1991.**

**EXCEPTING ALL OIL, GAS AND OTHER HYDROCARBONS, NON - HYDROCARBON GASES OR GASEOUS * SUBSTANCES, GEOTHERMAL RESOURCES AS DEFINED IN SECTION 6903 OF THE CALIFORNIA PUBLIC RESOURCES CODE AND ALL OTHER MINERALS OF WHATSOEVER NATURE, WHETHER SIMILAR TO THOSE HEREIN SPECIFIED OR NOT, WITHIN OR THAT MAY BE PRODUCED PROM THE PROPERTY, PROVIDED, HOWEVER, THAT ALL RIGHTS AND INTEREST IN THE SURFACE OF THE PROPERTY ARE HEREBY CONVEYED TO GRANTEE, NO RIGHT OR INTEREST OF ANY KIND THEREIN, EXPRESS OR IMPLIED, BEING EXCEPTED OR RESERVED TO GRANTOR EXCEPT AS HEREINAFTER EXPRESSLY SET FORTH RESERVED IN DEED RECORDED JANUARY 25, 1991 AS FILE NO. 91 - 0035394.**

**FURTHER EXCEPTING THE SOLE AND EXCLUSIVE RIGHT FROM TIME TO TIME TO DRILL AND MAINTAIN WELLS OR OTHER WORKS INTO, ON OR THROUGH THE PROPERTY BELOW A DEPTH OF 500 EEST AND TO PRODUCE, INJECT, STORE AND REMOVE FROM OR THROUGH SUCK WELLS OR WORKS, OIL, GAS AND OTHER SUBSTANCES OF WHATEVER NATURE INCLUDING THE RIGHT TO PERFORM BELOW A DEPTH OF 500 FEET ALL OPERATIONS DEEMED BY GRANTOR NECESSARY OR CONVENIENT FOR THE EXERCISE OF SUCH RIGHTS, PROVIDED, HOWEVER, THAT THE EXERCISE OF SUCH RIGHTS BELOW A DEPTH OF 500 FEET CONFERS NO RIGHTS TO GRANTOR WITH RESPECT TO, AND SHALL TOT INTERFERE WITH GRANTEE' S USE AND ENJOYMENT OF THE SURFACE OF, THE PROPERTY RESERVED IN DEED RECORDED JANUARY 25, 1991 AS FILE NO. 91 - 0035394.**

**LOTS 6, 7 AND 8 OF TORREY PINES SCIENCE CENTER UNIT NO. 1, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 12419, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY JULY 12, 1989.**

**EXCEPTING THEREFROM ALL OIL, GAS AND OTHER HYDROCARBONS, NON-HYDROCARBON GASES OR GASEOUS SUBSTANCES, GEOTHERMAL RESOURCES AS DEFINED IN SECTION 6903 OF THE CALIFORNIA PUBLIC RESOURCES CODE AND ALL OTHER MINERA OF WHATSOEVER NATURE, WHETHER SIMILAR TO THOSE HEREIN SPECIFIED OR NOT, WITHIN OR THAT MAY BE PRODUCED FROM THE LAND, AS RESERVED BY CHEVRON LAND AND DEVELOPMENT COMPANY, A DELAWARE CORPORATION ("GRANTOR") IN THAT CERTAIN CORPORATION GRANT DEED TO NEXUS SCIENCE CENTER - TORREY PINES, A CALIFORNIA LIMITED PARTNERSHIP ("GRANTEE"), RECORDED MARCH 9, 1990, AS FILE NO. 90-127215, PROVIDED HOWEVER, THAT ALL RIGHTS AND INTEREST IN THE SURFACE OF THE LAND ARE HEREBY CONVEYED TO GRANTEE NO RIGHT OR INTEREST OF ANY KIND THEREIN, EXPRESS OR IMPLIED, BEING EXCEPTED OR RESERVED TO GRANTOR EXCEPT AS HEREIN EXPRESSLY SET FORTH.**

**FURTHER EXCEPTING AND RESERVING TO GRANTOR, ITS SUCCESSOR AND ASSIGNS, THE SOLE AND EXCLUSIVE RIGHT FROM TIME TO TIME TO DRILL AND MAINTAIN WELLS OR OTHER WORKS INTO, ON OR THROUGH THE LAND BELOW A DEPTH OF 500 FEET AND TO PRODUCE, INJECT, STORE AND REMOVE FROM OR THROUGH SUCH WELLS OR WORKS, OIL, GAS AND OTHER SUBSTANCES OF WHATEVER. MATURE INCLUDING THE RIGHT TO PERFORM BELOW A DEPTH OP 500 FEET ALL OPERATIONS DEEMED BY GRANTOR NECESSARY OR CONVENIENT FOR THE EXCERCISE OF SUCH RIGHTS, PROVIDED, HOWEVER, THAT THE EXERCISE OF SUCH RIGHTS BELOW A DEPTH OP 500 FEET CONFERS NO RIGHTS TO GRANTOR WITH RESPECT TO, AND SHALL NOT INTERFERE WITH GRANTEE' S USE AND ENJOYMENT OF THE SURFACE OF, THE LAND.**

**EXHIBIT C**

**Second Expansion Premises Work Letter**

THIS SECOND EXPANSION PREMISES WORK LETTER dated June 01, 2016 (this "**Second Expansion Premises Work Letter**") is made and entered into by and between **ARE-3535/3565 GENERAL ATOMICS COURT, LLC,** a Delaware limited liability company ("**Landlord**"), and **FATE THERAPEUTICS, INC.,** a Delaware corporation ("**Tenant**"), and is attached to and made a part of that certain Lease Agreement dated as of December 3, 2009, as amended by that certain First Amendment to Lease Agreement dated as of October 1, 2011, as amended by that certain Second Amendment to Lease Agreement dated as of September 30, 2013, as amended by that certain Third Amendment to Lease Agreement dated as of September 2, 2014, as further amended by that certain Fourth Amendment to Lease dated as of March 2, 2015, and as further amended by that certain Fifth Amendment to Lease Agreement dated of even date herewith (as amended, the "**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

1. **General Requirements**.

(a) **Tenant's Authorized Representative**. Tenant designates Jessica Francis and Jim Serbia (either such individual acting alone, "**Tenant's Representative**") as the only persons authorized to act for Tenant pursuant to this Second Expansion Premises Work Letter. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication ("**Communication**") from or on behalf of Tenant in connection with this Second Expansion Premises Work Letter unless such Communication is in writing from Tenant's Representative. Tenant may change either Tenant's Representative at any time upon not less than 5 business days advance written notice to Landlord. Neither Tenant nor Tenant's Representative shall be authorized to direct Landlord's contractors in the performance of Landlord's Work (as hereinafter defined).

(b) **Landlord's Authorized Representative**. Landlord designates Eric Hedblad and Jenny Gardner (either such individual acting alone, "**Landlord's Representative**") as the only persons authorized to act for Landlord pursuant to this Second Expansion Premises Work Letter. Tenant shall not be obligated to respond to or act upon any request, approval, inquiry or other Communication from or on behalf of Landlord in connection with this Second Expansion Premises Work Letter unless such Communication is in writing from Landlord's Representative. Landlord may change either Landlord's Representative at any time upon not less than 5 business days advance written notice to Tenant. Landlord's Representative shall be the sole persons authorized to direct Landlord's contractors in the performance of Landlord's Work.

(c) **Architects, Consultants and Contractors**. Landlord and Tenant hereby acknowledge and agree that: (i) the general contractor for the Tenant Improvements shall be BNBuilders, Inc., (ii) DGA shall be the architect (the "**TI Architect**") for the Tenant Improvements, and (iii) any subcontractors for the Tenant Improvements shall be selected by Landlord, subject to Tenant's approval, which approval shall not be unreasonably withheld, conditioned or delayed.

2. **Tenant Improvements**.

(a) **Tenant Improvements Defined**. As used herein, "**Tenant Improvements**" shall mean all improvements to the Second Expansion Premises of a fixed and permanent nature as shown on the TI Construction Drawings, as defined in Section 2(c) below. Other than Landlord's Work (as defined in Section 3(a) below, Landlord shall not have any obligation whatsoever with respect to the finishing of the Second Expansion Premises for Tenant's use and occupancy.

(b) **Tenant's Space Plans**. Landlord and Tenant acknowledge and agree that that certain plan attached hereto as **Schedule 1** (the "**Space Plan**") has been approved by both Landlord and Tenant, subject to minor changes mutually agreed upon by Landlord and Tenant. Landlord and Tenant further acknowledge and agree that any changes to the Space Plan constitute a Change Request the cost of which changes shall be paid for out of the TI Fund (as defined in Section 5(d) below).

(c) **Working Drawings**. Landlord shall cause the TI Architect to prepare and deliver to Tenant for review and comment construction plans, specifications and drawings for the Tenant Improvements ("**TI Construction Drawings**"), which TI Construction Drawings shall be prepared substantially in accordance with the Space Plan. Tenant shall be solely responsible for ensuring that the TI Construction Drawings reflect Tenant's requirements for the Tenant Improvements. Tenant shall deliver its written comments on the TI Construction Drawings to Landlord not later than 10 business days after Tenant's receipt of the same; provided, however, that Tenant may not disapprove any matter that is consistent with

the Space Plan without submitting a Change Request. Landlord and the TI Architect shall consider all such comments in good faith and shall, within 10 business days after receipt, notify Tenant how Landlord proposes to respond to such comments, but Tenant's review rights pursuant to the foregoing sentence shall not delay the design or construction schedule for the Tenant Improvements. Any disputes in connection with such comments shall be resolved in accordance with Section 2(d) hereof. Provided that the design reflected in the TI Construction Drawings is consistent with the Space Plan, Tenant shall approve the TI Construction Drawings submitted by Landlord, unless Tenant submits a Change Request. Once approved by Tenant, subject to the provisions of Section 4 below, Landlord shall not materially modify the TI Construction Drawings except as may be reasonably required in connection with the issuance of the TI Permit (as defined in Section 3(b) below).

(d) **Approval and Completion**. It is hereby acknowledged by Landlord and Tenant that the TI Construction Drawings must be completed and approved no later than July 15, 2016, in order for the Landlord's Work to be Substantially Complete by the Target Second Expansion Premises Commencement Date (as defined in the Lease). Upon any dispute regarding the design of the Tenant Improvements, which is not settled within 10 business days after notice of such dispute is delivered by one party to the other, Tenant may make the final decision regarding the design of the Tenant Improvements, provided (i) Tenant acts reasonably and such final decision is either consistent with or a compromise between Landlord's and Tenant's positions with respect to such dispute, (ii) that all increases in costs and expenses resulting from any such decision by Tenant shall be payable out of the TI Fund, and (iii) Tenant's decision will not affect the base Building, structural components of the Building or any Building systems. Any changes to the TI Construction Drawings following Landlord's and Tenant's approval of same requested by Tenant shall be processed as provided in Section 4 hereof.

3. **Performance of Landlord's Work**.

(a) **Definition of Landlord's Work**. As used herein, "**Landlord's Work**" shall mean the work of constructing the Tenant Improvements.

(b) **Commencement and Permitting**. Landlord shall commence construction of the Tenant Improvements upon obtaining a building permit (the "**TI Permit**") authorizing the construction of the Tenant Improvements consistent with the TI Construction Drawings approved by Tenant. The cost of obtaining the TI Permit shall be payable from the TI Fund. Tenant shall assist Landlord in obtaining the TI Permit. If any Governmental Authority having jurisdiction over the construction of Landlord's Work or any portion thereof shall impose terms or conditions upon the construction thereof that: (i) are inconsistent with Landlord's obligations hereunder, (ii) increase the cost of constructing Landlord's Work, or (iii) will materially delay the construction of Landlord's Work, Landlord and Tenant shall reasonably and in good faith seek means by which to mitigate or eliminate any such adverse terms and conditions.

(c) **Completion of Landlord's Work**. Landlord shall (i) substantially complete or cause to be substantially completed Landlord's Work in a good and workmanlike manner, in accordance with the TI Permit and applicable Legal Requirements subject, in each case, to Minor Variations and normal "punch list" items of a non-material nature that do not interfere with the use of the Second Expansion Premises ("**Substantial Completion**" or "**Substantially Complete**") Upon Substantial Completion of Landlord's Work, Landlord shall require the TI Architect and the general contractor to execute and deliver, for the benefit of Tenant and Landlord, a Certificate of Substantial Completion in the form of the American Institute of Architects ("**AIA**") document G704. For purposes of this Second Expansion Premises Work Letter, "**Minor Variations**" shall mean any modifications reasonably required: (i) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the TI Permit); (ii) to comply with any request by Tenant for modifications to Landlord's Work; (iii) to comport with good design, engineering, and construction practices that are not material; or (iv) to make reasonable adjustments for field deviations or conditions encountered during the construction of Landlord's Work.

(d) **Selection of Materials**. Where more than one type of material or structure is indicated on the TI Construction Drawings approved by Landlord and Tenant, the option will be selected at Landlord's sole and absolute discretion. As to all building materials and equipment that Landlord is obligated to supply under this Second Expansion Premises Work Letter, Landlord shall select the manufacturer thereof in its sole and absolute discretion.

(e) **Delivery of the Second Expansion Premises**. When Landlord's Work is Substantially Complete, subject to the remaining terms and provisions of this Section 3(e), Tenant shall accept the Second Expansion Premises. Tenant's taking possession and acceptance of the Second Expansion Premises shall not constitute a waiver of: (i) any warranty with respect to workmanship (including installation of equipment) or material (exclusive of equipment provided directly by manufacturers), (ii) any non-compliance of Landlord's Work with applicable Legal Requirements, or (iii) any claim that

Landlord's Work was not completed substantially in accordance with the TI Construction Drawings (subject to Minor Variations and such other changes as are permitted hereunder) (collectively, a "**Construction Defect**"). Tenant shall have one year after Substantial Completion within which to notify Landlord of any such Construction Defect discovered by Tenant, and Landlord shall use reasonable efforts to remedy or cause the responsible contractor to remedy any such Construction Defect within 30 days thereafter. Notwithstanding the foregoing, Landlord shall not be in default under the Lease if the applicable contractor, despite Landlord's reasonable efforts, fails to remedy such Construction Defect within such 30-day period, in which case Landlord shall have no further obligation with respect to such Construction Defect other than to cooperate, at no cost to Landlord, with Tenant should Tenant elect to pursue a claim against such contractor.

Tenant shall be entitled to receive the benefit of all construction warranties and manufacturer's equipment warranties relating to equipment installed in the Second Expansion Premises. If requested by Tenant, Landlord shall attempt to obtain extended warranties from manufacturers and suppliers of such equipment, but the cost of any such extended warranties shall be borne solely by Tenant. Landlord shall promptly undertake all punch list items and shall use reasonable efforts to complete such punch list items within 30 days after the Substantial Completion of the Tenant Improvements.

(f) **Second Expansion Premises Commencement Date Delay**. Except as otherwise provided in the Lease, Delivery of the Second Expansion Premises shall occur when Landlord's Work has been Substantially Completed, except to the extent that completion of Landlord's Work shall have been actually delayed by any one or more of the following causes ("**Tenant Delay**"):

(i) Tenant's Representative was not available within 2 business day to give or receive any Communication or to take any other action required to be taken by Tenant hereunder;

(ii) Tenant's request for Change Requests (as defined in Section 4(a) below) whether or not any such Change Requests are actually performed;

(iii) Construction of any Change Requests;

(iv) Tenant's request for materials, finishes or installations requiring unusually long lead times, provided that promptly after Landlord learns of such long lead times, Landlord informs Tenant that the requested items will required unusually long lead times;

(v) Tenant's delay in reviewing, revising or approving plans and specifications beyond the periods set forth herein;

(vi) Tenant's delay in providing information critical to the normal progression of the Project. Tenant shall provide such information as soon as reasonably possible, but in no event longer than one week after receipt of any request for such information from Landlord;

(vii) Tenant's delay in making payments to Landlord for Excess TI Costs (as defined in Section 5(d) below); or

(viii) Any other act or omission by Tenant or any Tenant Party (as defined in the Lease), or persons employed by any of such persons.

If Delivery is delayed for any of the foregoing reasons, then Landlord shall cause the TI Architect to certify the date on which the Tenant Improvements would have been completed but for such Tenant Delay and such certified date shall be the date of Delivery. Landlord shall provide Tenant with written notice (which notice may be made via email) of any Tenant Delay promptly after the occurrence of the same.

4. **Changes**. Any changes requested by Tenant to the Tenant Improvements after the delivery and approval by Landlord of the Space Plan shall be requested and instituted in accordance with the provisions of this Section 4 and shall be subject to the written approval of Landlord and the TI Architect, such approval not to be unreasonably withheld, conditioned or delayed.

(a) **Tenant's Request For Changes**. If Tenant shall request changes to the Tenant Improvements ("**Changes**"), Tenant shall request such Changes by notifying Landlord in writing in substantially the same form as the AIA standard change order form (a "**Change Request**"), which Change Request shall detail the nature and extent of any such Change. Such Change Request must be signed by Tenant's Representative. Landlord shall, before proceeding with any Change, respond to Tenant as soon as is reasonably possible with an estimate of: (i) the time it will take, and (ii) the architectural

and engineering fees and costs that will be incurred, to analyze such Change Request (which costs shall be paid by Tenant to the extent actually incurred, whether or not such change is implemented). Landlord shall thereafter submit to Tenant in writing, within 5 business days of receipt of the Change Request (or such longer period of time as is reasonably required depending on the extent of the Change Request), an analysis of the additional cost or savings involved, including, without limitation, architectural and engineering costs and the period of time, if any, that the Change will extend the date on which Landlord's Work will be Substantially Complete. Any such delay in the completion of Landlord's Work caused by a Change, including any suspension of Landlord's Work while any such Change is being evaluated and/or designed, shall be Tenant Delay.

(b) **Implementation of Changes**. If Tenant: (i) approves in writing the cost or savings and the estimated extension or reduction in the time for completion of Landlord's Work, if any, and (ii) deposits with Landlord 50% of the Excess TI Costs required in connection with such Change, Landlord shall cause the approved Change to be instituted. Notwithstanding any approval or disapproval by Tenant of any estimate of the delay caused by such proposed Change, the TI Architect's determination of the amount of Tenant Delay in connection with such Change shall be final and binding on Landlord and Tenant.

5. **Costs**.

(a) **Budget For Tenant Improvements**. Before the commencement of construction of the Tenant Improvements, Landlord shall obtain a detailed breakdown by trade of the costs incurred or that will be incurred in connection with the design and construction of the Tenant Improvements (the "**Budget**"). The Budget shall be based upon the TI Construction Drawings approved by Tenant and shall include a payment to Landlord of administrative rent ("**Administrative Rent**") equal to 2% of the TI Allowance for monitoring and inspecting the construction of the Tenant Improvements and Changes, which sum shall be payable from the TI Fund (as defined in Section 5(d). Administrative Rent shall include, without limitation, all out-of-pocket costs, expenses and fees incurred by or on behalf of Landlord arising from, out of, or in connection with monitoring the construction of the Tenant Improvements and Changes, and shall be payable out of the TI Fund. If the Budget is greater than the TI Allowance, Tenant shall deposit with Landlord the difference, in cash, prior to the commencement of construction of the Tenant Improvements or Changes, for disbursement by Landlord as described in Section 5(d).

(b) **TI Allowance**. Landlord shall provide to Tenant a tenant improvement allowance (the "**TI Allowance**") of $2,500,000 in the aggregate. The TI Allowance shall be disbursed in accordance with this Work Letter.

(c) **Costs Includable in TI Fund**. The TI Fund shall be used solely for the payment of design, permits and construction costs in connection with the construction of the Tenant Improvements, including, without limitation, the cost of electrical power and other utilities used in connection with the construction of the Tenant Improvements, the cost of preparing the Space Plan and the TI Construction Drawings, all costs set forth in the Budget, including Landlord's Administrative Rent, Landlord's out-of-pocket expenses, costs resulting from Tenant Delays and the cost of Changes (collectively, "**TI Costs**"). Except as expressly set forth below, the TI Fund shall not be used to purchase any furniture, personal property or other non-Building system materials or equipment, including, but not limited to, Tenant's voice or data cabling, non-ducted biological safety cabinets and other scientific equipment not incorporated into the Tenant Improvements.

Tenant has advised Landlord that Tenant has retained Serbia Consulting Group, Inc. ("**Tenant's Project Manager**") to provide consulting services to Tenant in connection with the Tenant Improvements. If, following the completion of the Tenant Improvements, there remains any unused TI Allowance ("**Unused Allowance**"), then Tenant may use up to $250,000 of such Unused Allowance in the aggregate to reimburse fees paid by Tenant to Tenant's Project Manager (not to exceed $50,000 in the aggregate) and for the cost of Tenant's tele-data cabling for the Second Expansion Premises and any other items reasonably approved by Landlord. In no event may Tenant use more than a total of $250,000 of any Unused Allowance.

(d) **Excess TI Costs**. Landlord shall have no obligation to bear any portion of the cost of any of the Tenant Improvements except to the extent of the TI Allowance. If at any time the remaining TI Costs under the Budget exceed the remaining unexpended TI Allowance, Tenant shall deposit with Landlord, as a condition precedent to Landlord's obligation to complete the Tenant Improvements, 50% of the then current TI Cost in excess of the remaining TI Allowance ( "**Excess TI Costs**") and the remaining 50% of the Excess TI Costs upon Substantial Completion of the Tenant Improvements. If Tenant fails to deposit any Excess TI Costs with Landlord, Landlord shall have all of the rights and remedies set forth in the Lease for nonpayment of Rent (including, but not limited to, the right to interest at the Default Rate and the right to

assess a late charge). For purposes of any litigation instituted with regard to such amounts, those amounts will be deemed Rent under the Lease. The TI Allowance and Excess TI Costs are herein referred to as the "**TI Fund**." Funds deposited by Tenant shall be the first disbursed to pay TI Costs. Notwithstanding anything to the contrary set forth in this Section 5(d), Tenant shall be fully and solely liable for TI Costs and the cost of Minor Variations in excess of the TI Allowance. If upon completion of the Tenant Improvements and the payment of all sums due in connection therewith there remains any undisbursed portion of the TI Fund, Tenant shall be entitled to such undisbursed TI Fund solely to the extent of any Excess TI Costs deposit Tenant has actually made with Landlord.

6. **Tenant Access**.

(a) **Tenant's Access Rights**. Landlord hereby agrees to permit Tenant access, at Tenant's sole risk and expense, to the Second Expansion Premises (i) 60 days prior to the Second Expansion Premises Commencement Date to perform any data cabling work and 30 days prior to the Second Expansion Premises Commencement Date to perform any other work (such data cabling and other work, "**Tenant's Work**") required by Tenant other than Landlord's Work, provided that such Tenant's Work is coordinated with the TI Architect and the general contractor, and complies with the Lease and all other reasonable restrictions and conditions Landlord may impose, and (ii) prior to the completion of Landlord's Work, to inspect and observe work in process; all such access shall be during normal business hours or at such other times as are reasonably designated by Landlord. Any entry by Tenant shall comply with all established safety practices of Landlord's contractor and Landlord until completion of Landlord's Work and acceptance thereof by Tenant.

(b) **No Interference**. Neither Tenant nor any Tenant Party (as defined in the Lease) shall interfere with the performance of Landlord's Work, nor with any inspections or issuance of final approvals by applicable Governmental Authorities, and upon any such interference, Landlord shall have the right to exclude Tenant and any Tenant Party from the Second Expansion Premises until Substantial Completion of Landlord's Work.

(c) **No Acceptance of Second Expansion Premises**. The fact that Tenant may, with Landlord's consent, enter into the Second Expansion Premises prior to the date Landlord's Work is Substantially Complete for the purpose of performing Tenant's Work shall not be deemed an acceptance by Tenant of possession of the Second Expansion Premises, but in such event Tenant shall defend with counsel reasonably acceptable by Landlord, indemnify and hold Landlord harmless from and against any loss of or damage to Tenant's property, completed work, fixtures, equipment, materials or merchandise, and from liability for death of, or injury to, any person, caused by the act or omission of Tenant or any Tenant Party.

7. **Miscellaneous**.

(a) **Consents**. Whenever consent or approval of either party is required under this Second Expansion Premises Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, unless expressly set forth herein to the contrary.

(b) **Modification**. No modification, waiver or amendment of this Second Expansion Premises Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant.

(c) **No Default Funding**. In no event shall Landlord have any obligation to fund any of the TI Costs or perform any Landlord's Work during any period that Tenant is in Default under the Lease.

**Schedule 1**

**Space Plan**

[Graphic]

**EXHIBIT D**

**ROFR Space**

[Graphic]

**Exhibit 31.1**

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a) AND 15d-14(a) OF THE SECURITIES EXCHANGE ACT, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, J. Scott Wolchko, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Fate 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

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

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

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

Date: August 8, 2016

/s/ J. Scott Wolchko
J. Scott Wolchko
President and Chief Executive Officer
(Principal Executive and 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 of Fate Therapeutics, Inc. (the "Company") on Form 10-Q for the period ended June 30, 2016 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, J. Scott Wolchko, Principal Executive Officer and Principal Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; 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: August 8, 2016

/s/ J. Scott Wolchko
J. Scott Wolchko
President and Chief Executive Officer
*(Principal Executive and Financial Officer)*

The foregoing certification is being furnished solely pursuant to 18 U.S.C. Section 1350 and is not being filed as part of the Report or as a separate disclosure document.