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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 September 30, 2016

or

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

For the transition period from _____ to _____

Commission file number: 000-50633

CYTOKINETICS, INCORPORATED
(Exact name of registrant as specified in its charter)

Delaware	**94-3291317**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
280 East Grand Avenue South San Francisco, California	**94080**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (650) 624-3000

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. (Check one):

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 ☒

Number of shares of common stock, $0.001 par value, outstanding as of October 27, 2016: 40,516,892

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FOR THE QUARTER ENDED SEPTEMBER 30, 2016

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

CYTOKINETICS, INCORPORATED
CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share data) (Unaudited)

	September 30, 2016	December 31, 2015
ASSETS		
Current assets:		
Cash and cash equivalents	$ 30,300	$ 65,076
Short-term investments	48,309	46,366
Related party accounts receivable	67,000	12
Prepaid and other current assets	2,575	1,653
Total current assets	148,184	113,107
Property and equipment, net	2,049	1,751
Long-term investments	7,737	179
Other assets	200	200
Total assets	$ 158,170	$ 115,237
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 668	$ 2,238
Accrued liabilities	17,783	8,421
Deferred revenue, current	10,497	20,858
Short-term portion of deferred rent and interest payable	386	132
Total current liabilities	29,334	31,649
Long-term debt	29,742	14,639
Deferred revenue, non-current	15,635	—
Long-term portion of deferred rent	209	359
Total liabilities	74,920	46,647
Commitments and contingencies (Note 11)		
Stockholders' equity:		
Preferred stock, $0.001 par value:		
Authorized: 10,000,000 shares;		
Issued and outstanding: Series A Convertible Preferred Stock — zero shares at September 30, 2016 and December 31, 2015	—	—
Common stock, $0.001 par value:		
Authorized: 81,500,000 shares;		
Issued and outstanding: 40,516,892 shares at September 30, 2016 and 39,581,692 shares at December 31, 2015	41	40
Additional paid-in capital	609,880	603,145
Accumulated other comprehensive income	252	149
Accumulated deficit	(526,923)	(534,744)
Total stockholders' equity	83,250	68,590
Total liabilities and stockholders' equity	$ 158,170	$ 115,237

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

CYTOKINETICS, INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands, except per share data) (Unaudited)

	Three Months Ended		Nine Months Ended	
	September 30, 2016	September 30, 2015	September 30, 2016	September 30, 2015
Revenues:				
Research and development revenues from related parties	$ 5,573	$ 3,786	$ 13,383	$ 10,087
Research and development, grant and other revenues	441	27	930	27
License revenues from related parties	53,033	4,132	58,956	8,787
Total revenues	59,047	7,945	73,269	18,901
Operating expenses:				
Research and development	19,340	11,557	42,596	33,149
General and administrative	7,217	5,276	21,149	14,138
Total operating expenses	26,557	16,833	63,745	47,287
Operating income (loss)	32,490	(8,888)	9,524	(28,386)
Interest expense	(714)	—	(1,985)	—
Interest and other income, net	111	39	282	114
Net income (loss) before income taxes	31,887	(8,849)	7,821	(28,272)
Income tax benefit	—	—	—	—
Net income (loss)	$ 31,887	$ (8,849)	$ 7,821	$ (28,272)
Net income (loss) per share — basic	$ 0.80	$ (0.23)	$ 0.20	$ (0.73)
Net income (loss) per share — diluted	$ 0.74	$ (0.23)	$ 0.19	$ (0.73)
Weighted-average number of shares used in computing net income (loss) per share — basic	39,926	38,752	39,729	38,718
Weighted-average number of shares used in computing net income (loss) per share — diluted	43,217	38,752	42,247	38,718
Other comprehensive income:				
Unrealized gains on available-for-sale securities, net	23	2	103	19
Comprehensive income (loss)	$ 31,910	$ (8,847)	$ 7,924	$ (28,253)

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

CYTOKINETICS, INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands) (Unaudited)

	Nine Months Ended	
	September 30, 2016	September 30, 2015
Cash flows from operating activities:		
Net income (loss)	$ 7,821	$ (28,272)
Adjustments to reconcile net income (loss) to net cash used in operating activities:		
Depreciation and amortization of property and equipment	517	438
Stock-based compensation	5,266	3,219
Non-cash interest expense	395	—
Loss on disposal of property and equipment	1	—
Gain on sale of investments	—	(1)
Changes in operating assets and liabilities:		
Related party accounts receivable	(66,988)	46,598
Prepaid and other assets	(922)	(1,226)
Accounts payable	(1,334)	616
Accrued and other liabilities	9,122	1,341
Deferred revenue	5,275	(7,888)
Net cash provided by (used in) operating activities	(40,847)	14,825
Cash flows from investing activities:		
Purchases of investments	(79,969)	(94,658)
Proceeds from sales and maturities of investments	70,572	85,668
Proceeds from sale of property and equipment	33	—
Purchases of property and equipment	(742)	(358)
Net cash used in investing activities	(10,106)	(9,348)
Cash flows from financing activities:		
Proceeds from long term debt, net of debt discount and issuance costs	14,996	—
Proceeds (payments) from stock based award activities and warrants, net	1,181	270
Net cash provided by financing activities	16,177	270
Net increase (decrease) in cash and cash equivalents	(34,776)	5,747
Cash and cash equivalents, beginning of period	65,076	20,215
Cash and cash equivalents, end of period	$ 30,300	$ 25,962

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

CYTOKINETICS, INCORPORATED
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — Organization, Basis of Presentation and Recently Issued Accounting Standards

Overview

Cytokinetics, Incorporated (the "Company", "we" or "our") was incorporated under the laws of the state of Delaware on August 5, 1997. The Company is a late stage biopharmaceutical company focused on the discovery and development of novel small molecule therapeutics that modulate muscle function for the potential treatment of serious diseases and medical conditions.

The Company's financial statements contemplate the conduct of the Company's operations in the normal course of business. The Company has incurred an accumulated deficit of $526.9 million since inception and there can be no assurance that the Company will attain consistent profitability. The Company had a net income of $7.8 million and net cash used in operations of $40.8 million for the nine months ended September 30, 2016. Cash, cash equivalents and investments decreased from $111.6 million at December 31, 2015 to $86.3 million at September 30, 2016. The Company anticipates that it will continue to have operating losses and net cash outflows in future periods.

The Company is subject to risks common to clinical stage biopharmaceutical companies including, but not limited to, development of new drug candidates, dependence on key personnel, and the ability to obtain additional capital as needed, to fund its future plans. The Company's liquidity will be impaired if sufficient additional capital is not available on terms acceptable to the Company. To date, the Company has funded its operations primarily through sales of its common stock and convertible preferred stock, contract payments under its collaboration agreements, debt financing arrangements, government grants and interest income. Until it achieves profitable operations, the Company intends to continue to fund operations through payments from strategic collaborations, additional sales of equity securities, grants and debt financings. The Company has never generated revenues from commercial sales of its drugs and may not have drugs to market for at least several years, if ever. The Company's success is dependent on its ability to enter into new strategic collaborations and/or raise additional capital and to successfully develop and market one or more of its drug candidates. As a result, the Company may choose to raise additional capital through equity or debt financings to continue to fund its operations in the future. The Company cannot be certain that sufficient funds will be available from such a financing or through a collaborator when required or on satisfactory terms. Additionally, there can be no assurance that the Company's drug candidates will be accepted in the marketplace or that any future products can be developed or manufactured at an acceptable cost. These factors could have a material adverse effect on the Company's future financial results, financial position and cash flows.

Based on the current status of its research and development plans, the Company believes that its existing cash, cash equivalents and investments at September 30, 2016 will be sufficient to fund its cash requirements for at least the next 12 months. If, at any time, the Company's prospects for financing its research and development programs decline, the Company may decide to reduce research and development expenses by delaying, discontinuing or reducing its funding of one or more of its research or development programs. Alternatively, the Company might raise funds through strategic collaborations, public or private financings or other arrangements. Such funding, if needed, may not be available on favorable terms, or at all. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis of Presentation

The consolidated financial statements include the accounts of Cytokinetics and its wholly owned subsidiary. The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America ("GAAP") for interim financial information and the instructions to Form 10-Q and Rule 10-01 of Regulation S-X. The financial statements include all adjustments (consisting only of normal recurring adjustments) that management believes are necessary for the fair statement of the Company's position at September 30, 2016, and the results of operations for the three and nine months ended September 30, 2016 and the cash flows for the nine months ended September 30, 2016. These interim financial statement results are not necessarily indicative of results to be expected for the full fiscal year or any future interim period. The balance sheet at December 31, 2015 has been derived from the audited financial statements at that date, but does not include all of the information and footnotes required by GAAP for complete financial statements. The financial statements and related disclosures have been prepared with the presumption that users of the interim financial statements have read or have access to the audited financial statements for the preceding fiscal year. Accordingly, these financial statements should be read in conjunction with the audited financial statements and notes thereto contained in the Company's Form 10-K for the year ended December 31, 2015, as filed with the SEC on March 3, 2016.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Recent Accounting Pronouncements

In August 2016, the FASB issued ASU 2016-15, *'Statement of cash flows (Topic 230): Classification of certain cash receipts and cash payments'.* ASU 2016-15 issued guidance to clarify how certain cash receipts and payments should be presented in the statement of cash flows. ASU 2016-15 is effective for annual and interim reporting periods beginning after December 15, 2017 and early adoption is permitted. The Company does not expect the adoption of this standard to have a material effect on its financial statements or disclosures.

In June 2016, the FASB issued ASU 2016-13, *'Financial Instruments — Credit Losses — Measurement of Credit Losses on Financial Instruments.* ASU 2016-13 changes the impairment model for most financial assets and certain other instruments. ASU 2016-13 is effective for annual and interim reporting periods beginning after December 15, 2019. The Company is in the process of evaluating the impact the adoption of this standard would have on its financial statements and disclosures.

In March 2016, the FASB issued ASU 2016-09, *Stock compensation (Topic 718).* ASU 2016-09 simplifies various aspects of accounting for share-based payments and presentation in the financial statements. ASU 2016-09 is effective for annual and interim reporting periods beginning after December 15, 2016 and early adoption is permitted. The Company is in the process of evaluating the impact the adoption of this standard would have on its financial statements and disclosures.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842).* ASU 2016-02 requires management to record right-to-use asset and lease liability on the statement of financial position for operating leases. ASU 2016-02 is effective for annual and interim reporting periods beginning on or after December 15, 2018 and modified retrospective approach is required. The Company is in the process of evaluating the impact the adoption of this standard would have on its financial statements and disclosures.

In January 2016, the FASB issued ASU 2016-01, *Financial instruments (Subtopic 825-10).* ASU 2016-01 requires management to measure equity investments at fair value with changes in fair value recognized in net income. ASU 2016-01 is effective for annual and interim reporting periods beginning on or after December 15, 2017 and early adoption is not permitted. The Company does not expect the adoption of this standard to have a material effect on its financial statements or disclosures.

In August 2014, the FASB issued ASU 2014-15, *Presentation of Financial Statements — Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern.* ASU 214-15 requires management to assess an entity's ability to continue as a going concern, and to provide related footnote disclosures in certain circumstances. ASU 2014-15 is effective for annual and interim reporting periods beginning on or after December 15, 2016 and early adoption is permitted. The Company does not expect the adoption of this standard to have a material effect on its financial statements or disclosures.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)*, which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The ASU will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective. In March 2016, the FASB amended the principal-versus-agent implementation guidance and illustrations in the new standard. In April 2016, the FASB amended the guidance on identifying performance obligations and the implementation guidance on licensing in the new standard. In May 2016, the FASB amended the guidance on collectability, noncash consideration, presentation of sales tax and transition in the new standard. The new standard will become effective for us on January 1, 2018. Early application is permitted to the original effective date of January 1, 2017. The standard permits the use of either the retrospective or cumulative effect transition method. We are currently evaluating the method of adoption and the potential impact this standard may have on our financial position and results of operations.

Note 2 — Net Income (Loss) Per Share

The following is the calculation of basic and diluted net loss per share (in thousands, except per share data):

	Three Months Ended		Nine Months Ended	
	September 30, 2016	September 30, 2015	September 30, 2016	September 30, 2015
Net Income (loss)	$ 31,887	$ (8,849)	$ 7,821	$ (28,272)
Weighted-average shares used in computing net income (loss) per share — basic	39,926	38,752	39,729	38,718
Effect of dilutive securities:				
Warrants	2,395	—	1,942	—
Employee stock options	622	—	376	—
Restricted stock options	266	—	196	—
Employee stock purchase plan	8	—	4	—
Dilutive potential common shares	3,291	—	2,518	—
Weighted-average shares used in computing net income (loss) per share — diluted	43,217	38,752	42,247	38,718
Net income (loss) per share — basic	$ 0.80	$ (0.23)	$ 0.20	$ (0.73)
Net income (loss) per share — diluted	$ 0.74	$ (0.23)	$ 0.19	$ (0.73)

Basic net income (loss) per share is computed by dividing net loss by the weighted average number of vested common shares outstanding during the period. Diluted net income (loss) per share is computed by giving effect to all potentially dilutive common shares, including outstanding stock options, unvested restricted stock units, warrants, and shares issuable under the Company's Employee Stock Purchase Plan ("ESPP"), by applying the treasury stock method, if they have a dilutive effect. The following instruments were excluded from the computation of diluted net income (loss) per share because their effect would have been antidilutive (in thousands):

	Three Months Ended		Nine Months Ended	
	September 30, 2016	September 30, 2015	September 30, 2016	September 30, 2015
Options to purchase common stock	1,999	3,513	3,709	3,513
Warrants to purchase common stock	—	5,576	—	5,576
Restricted and Performance stock units	—	757	—	757
Shares issuable related to the ESPP	—	26	—	26
Total shares	1,999	9,872	3,709	9,872

Note 3 — Supplemental Cash Flow Data

Supplemental cash flow data was as follows (in thousands):

	Nine Months Ended	
	September 30, 2016	September 30, 2015
Cash paid for interest	$ 1,527	$ —
Cash paid for income taxes	1	1
Significant non-cash investing and financing activities:		
Debt discount netted against proceeds from long term debt, recorded in equity	288	—
Interest paid on the long-term debt, at inception	63	—
Purchases of property and equipment through accounts payable	237	68
Purchases of property and equipment through accrued liabilities	(343)	8

Note 4 — Related Party Research and Development Arrangements

Amgen Inc. ("Amgen")

In December 2006, the Company entered into a collaboration and option agreement with Amgen to discover, develop and commercialize novel small molecule therapeutics, including omecamtiv mecarbil, that activate cardiac muscle contractility for potential applications in the treatment of heart failure (the "Amgen Agreement"). The agreement granted Amgen an option to obtain an exclusive license worldwide, except Japan, to develop and commercialize omecamtiv mecarbil and other drug candidates arising from the collaboration. In May 2009, Amgen exercised its option. As a result, Amgen became responsible for the development and commercialization of omecamtiv mecarbil and related compounds at its expense worldwide (excluding Japan), subject to the Company's development and commercialization participation rights. Amgen reimburses the Company for certain research and development activities it performs under the collaboration.

In June 2013, Cytokinetics and Amgen executed an amendment to the Amgen Agreement to include Japan, resulting in a worldwide collaboration (the "Amgen Agreement Amendment"). Under the terms of the Amgen Agreement Amendment, the Company received a non-refundable upfront license fee of $15.0 million in June 2013. Under the Amgen Agreement Amendment, the Company conducted a Phase 1 pharmacokinetic study intended to support inclusion of Japan in a potential Phase 3 clinical development program and potential global registration dossier for omecamtiv mecarbil. Amgen reimbursed the Company for the costs of this study. In addition, the Company is eligible to receive additional pre-commercialization milestone payments relating to the development of omecamtiv mecarbil and royalties on sales of omecamtiv mecarbil in Japan.

In conjunction with the Amgen Agreement Amendment, the Company also entered into a common stock purchase agreement which provided for the sale of 1,404,100 shares of its common stock to Amgen at a price per share of $7.12 and an aggregate purchase price of $10.0 million, which was received in June 2013. The Company determined the fair value of the stock issued to Amgen to be $7.5 million. The excess of cash received over fair value of $2.5 million was initially deferred and allocated between the license and services based on their relative selling prices using best estimate of selling price. The allocated consideration was recognized as revenue as revenue criteria were satisfied, or as services were performed over approximately 12 months. Pursuant to this agreement, Amgen agreed to certain trading and other restrictions with respect to the Company's common stock.

The Company determined that the license to the Japan territory granted under the Amgen Agreement Amendment was a separate, non-contingent deliverable under the amendment. The Company determined that the license has stand-alone value based on Amgen's internal product development capabilities since all relevant manufacturing know-how related to omecamtiv mecarbil was previously delivered to Amgen.

In October 2013, the Company determined that the revenue recognition requirements under ASC 605-10 had been met and accordingly, recognized $17.2 million in license revenue attributable to the Amgen Agreement Amendment in the fourth quarter of 2013. In year ended December 31, 2014, the Company recognized the remaining $0.3 million of the previously deferred consideration attributable to the Amgen Agreement Amendment as research and development revenues from related parties.

Amgen and the Company agreed to extend the term of the research program in 2016. Under the amended Amgen Agreement, the Company is entitled to receive reimbursements of internal costs of certain full-time employee equivalents during 2016, as well as potential additional milestone payments related to the research activities.

Under the Amgen Agreement, as amended, the Company is eligible to receive over $350.0 million in development milestone payments which are based on various clinical milestones, including the initiation of certain clinical studies, the submission of a drug candidate to certain regulatory authorities for marketing approval and the receipt of such approvals. These clinical milestones include an approximately $27.0 million milestone relating to the start of GALACTIC-HF. Additionally, the Company is eligible to receive up to $300.0 million in commercial milestone payments provided certain sales targets are met. Due to the nature of drug development, including the inherent risk of development and approval of drug candidates by regulatory authorities, it is not possible to estimate if and when these milestone payments would become due. The achievement of each of these milestones is dependent solely upon the results of Amgen's development and commercialization activities and therefore none of these milestones was deemed to be substantive. During the three and nine months ended September 30, 2016 and 2015, the Company recognized no revenues for milestones achieved under the Amgen Agreement.

The Amgen Agreement also provides for the Company to receive increased royalties by co-funding Phase 3 development costs of omecamtiv mecarbil and other drug candidates under the collaboration. If the Company elects to co-fund such costs, it would be entitled to co-promote the co-funded drug in North America and participate in agreed commercialization activities in institutional care settings, at Amgen's expense.

In July 2013, Amgen announced that it had granted an option to commercialize omecamtiv mecarbil in Europe to Servier, with the Company's consent, pursuant to an Option, License and Collaboration Agreement (the "Servier Agreement").

In August 2016, the Company entered into a Letter Agreement with Amgen and Servier (the "Letter Agreement"), which (i) expands the territory of the sublicense to Servier to include specified countries in the Commonwealth of Independent States ("CIS") and (ii) provides that, if Amgen's rights under the Amgen Agreement, as amended, are terminated with respect to the territory of such sublicense, the sublicensed rights previously granted by Amgen to Servier under the Servier Agreement will remain in effect and become a direct license or sublicense of such rights by us to Servier, on substantially the same terms as set forth in the Servier Agreement, including but not limited to Servier's payment of its share of agreed development costs and future milestone and royalty payments to us. The Letter Agreement does not otherwise modify our rights and obligations under the Amgen Agreement, as amended, or create any additional financial obligations of the Company, unless we otherwise agree in writing.

In September 2016, Amgen and Servier announced Servier's decision to exercise its option to commercialize omecamtiv mecarbil in Europe as well as the CIS, including Russia. The option and related commercialization sublicense to Servier is subject to the terms and conditions of the Amgen Agreement. Amgen remains responsible for the performance of its obligations under the Amgen Agreement relating to Europe and the CIS, including the payment of milestones and royalties relating to the development and commercialization of omecamtiv mecarbil in Europe and the CIS.

Pursuant to the Amgen Agreement, the Company has recognized research and development revenue from Amgen for reimbursements of internal costs of certain full-time employee equivalents, supporting a collaborative research program directed to the discovery of next-generation cardiac sarcomere activator compounds and of other costs related to that research program. These reimbursements were recorded as research and development revenues from related parties. During the three months ended September 30, 2016 and 2015, the Company recorded research and development revenue from Amgen of $0.6 million and $0.6 million, respectively, under the Amgen Agreement. During the nine months ended September 30, 2016 and 2015, the Company recorded research and development revenue from Amgen of $1.8 million and $1.9 million, respectively, under the Amgen Agreement.

Revenue from Amgen was as follows (in thousands):

	Three Months Ended		Nine Months Ended	
	September 30, 2016	September 30, 2015	September 30, 2016	September 30, 2015
Research and development revenues from related parties				
Reimbursement of internal costs	$ 616	$ 598	$ 1,849	$ 1,862
Allocated consideration	—	—	—	21
Total revenues from Amgen	$ 616	$ 598	$ 1,849	$ 1,883

Related party accounts receivable from Amgen were as follows (in thousands):

	September 30, 2016	December 31, 2015
Related party accounts receivable — Amgen	$ —	$ —

Astellas Pharma Inc. ("Astellas")

Original Astellas Agreement (Non-neuromuscular license)

In June 2013, the Company entered into a license and collaboration agreement with Astellas (the "Original Astellas Agreement"). The primary objective of the collaboration with Astellas is to advance novel therapies for diseases and medical conditions associated with muscle weakness.

Under the Original Astellas Agreement, the Company granted Astellas an exclusive license to co-develop and jointly commercialize CK-2127107, a fast skeletal troponin activator, for potential application in non-neuromuscular indications worldwide. The Company was primarily responsible for the conduct of Phase 1 clinical trials and certain Phase 2 readiness activities for CK-2127107 and Astellas was primarily responsible for the conduct of subsequent development and commercialization activities for CK-2127107.

In July 2013, the Company received an upfront, non-refundable license fee of $16.0 million in connection with the execution of the Original Astellas Agreement. Under the agreement, the Company was eligible to potentially receive over $24.0 million in reimbursement of sponsored research and development activities during the initial two years of the collaboration. The Original Astellas Agreement also provided for research and early and late stage development milestone payments based on various research and clinical milestones, including the initiation of certain clinical studies, the submission for approval of a drug candidate to certain regulatory authorities for marketing approval and the commercial launch of collaboration products, and royalties on sales of commercialized products.

At the inception of the Original Astellas Agreement, the Company deferred revenue related to the Original Astellas Agreement in accordance with ASC 605-25. The Company evaluated whether the delivered elements under the arrangement have value on a stand-alone basis. Upfront, non-refundable licensing payments are assessed to determine whether or not the licensee is able to obtain stand-alone value from the license. Where this is not the case, the Company does not consider the license deliverable to be a separate unit of accounting, and the revenue for the license fee is deferred and recognized in conjunction with the other deliverables that constitute the combined unit of accounting.

The Company determined that the license and the research and development services are a single unit of accounting as the license was determined to not have stand-alone value. Accordingly, the Company is recognizing this revenue using the proportional performance model over the initial research term of the Original Astellas Agreement. During the three months ended September 30, 2016 and 2015, the Company recorded zero and $0.1 million, respectively, in license revenue based on the proportional performance model. During the nine months ended September 30, 2016 and 2015, the Company recorded zero dollars and $2.2 million, respectively, in license revenue based on the proportional performance model. No license revenue remains deferred under the Original Astellas Agreement as of September 30, 2016.

Pursuant to the Original Astellas Agreement, the Company recognized research and development revenue from Astellas for reimbursements of internal costs of certain full-time employee equivalents, supporting collaborative research and development programs, and of other costs related to those programs. During the three months ended September, 2016 and 2015, the Company recorded research and development revenue from Astellas of zero and $0.2 million, respectively, under the Original Astellas Agreement. During the nine months ended September 30, 2016 and 2015, the Company recorded research and development revenue from Astellas of zero and $3.4 million, respectively, under the Original Astellas Agreement.

2014 Astellas Agreement (Expansion to include neuromuscular indications)

In December 2014, the Company entered into an amended and restated license and collaboration agreement with Astellas (the "2014 Astellas Agreement"). This agreement superseded the Original Astellas Agreement. The 2014 Astellas Agreement expanded the objective of the collaboration of advancing novel therapies for diseases and medical conditions associated with muscle weakness to include spinal muscular atrophy (SMA) and potentially other neuromuscular indications with CK-2127107 and other fast skeletal troponin activators, in addition to the non-neuromuscular indications provided for in the Original Astellas Agreement.

Under the 2014 Astellas Agreement, the Company received a non-refundable upfront license fee of $30.0 million in January 2015. Concurrently, the Company received $15.0 million as a milestone payment relating to Astellas' decision to advance CK-2127107 into Phase 2 clinical development. Under the 2014 Astellas Agreement, the Company is conducting the initial Phase 2 clinical trial of CK-2127107 in patients with SMA. In addition, the Company is entitled to receive additional pre-commercialization milestone payments related to the development of CK-2127107 in neuromuscular indications, and royalties on sales of CK-2127107 in neuromuscular indications.

The Company determined that the license and the research and development services relating to the 2014 Astellas Agreement are a single unit of accounting as the license was determined to not have stand-alone value. Accordingly, the Company is recognizing this revenue over the research term of the 2014 Astellas Agreement using the proportional performance model.

During the three months ended September 30, 2016 and 2015, the Company recorded $3.0 million and $4.1 million, respectively, in license revenue based on the proportional performance model under the 2014 Astellas Agreement. During the nine months ended September 30, 2016 and 2015, the Company recorded $9.0 million and $6.5 million, respectively, in license revenue based on the proportional performance model under the 2014 Astellas Agreement. As of September 30, 2016, $10.3 million license revenue remains deferred under the 2014 Astellas Agreement. Pursuant to the 2014 Astellas Agreement, the Company recognized research and development revenue from Astellas for reimbursements of internal costs of certain full-time employee equivalents, supporting collaborative research and development programs, and of other costs related to those programs. The Company is eligible to potentially receive over $20.0 million in reimbursement of sponsored research and development activities during the three years of the collaboration through 2017. During the three months ended September 30, 2016 and 2015, the Company recorded research and development revenue from Astellas of $3.0 million and $3.0 million, respectively, under the 2014 Astellas Agreement. During the nine months ended September 30, 2016 and 2015, the Company recorded research and development revenue from Astellas of $9.5 million and $4.8 million, respectively, under the 2014 Astellas Agreement.

In conjunction with the 2014 Astellas Agreement, the Company also entered into a common stock purchase agreement which provided for the sale of 2,040,816 shares of its common stock to Astellas at a price per share of $4.90 and an aggregate purchase price of $10.0 million which was received in December 2014. Pursuant to this agreement, Astellas agreed to certain trading and other restrictions with respect to the Company's common stock. The Company determined the fair value of the stock issued to Astellas to be $9.1 million. The excess of cash received over fair value of $0.9 million was deferred along with the license and research and development services. Allocated consideration will be recognized as revenue for the single unit of accounting above, as services are performed following the proportional performance model over the research term of the 2014 Astellas Agreement. Following the common stock purchase, Astellas was determined to be a related party. As such, all revenue earned following the common stock purchase is classified as related party revenue.

2016 Astellas Amendment (Inclusion of ALS as an Added Indication and Option on Tirasemtiv)

On July 27, 2016, the Company and Astellas entered into an amendment (the "2016 Amendment") to expand their collaboration on the research, development and commercialization of skeletal muscle activators under the 2014 Astellas Agreement (collectively, the "Current Astellas Agreement").

Under the 2016 Amendment, the Company granted Astellas an option to enter into a pre-negotiated agreement for a global collaboration for the development and commercialization of tirasemtiv ("Option on Tirasemtiv"). If Astellas exercises the option, Astellas will receive exclusive worldwide commercialization rights outside of the Company's commercialization territory of North America, Europe and other select countries. Tirasemtiv is the Company's fast skeletal troponin activator being evaluated in the ongoing Phase 3 clinical trial, VITALITY-ALS, in people living with amyotrophic lateral sclerosis ("ALS").

In addition, the 2016 Amendment expands the Company's collaboration with Astellas to include the development of CK-2127107 ("CK-107"), a next-generation fast skeletal troponin activator, for the potential treatment of ALS, as well the possible development in ALS of other fast skeletal regulatory activators licensed to Astellas under the 2014 Astellas Agreement ("ALS License"). Finally, the 2016 Amendment extends the existing joint research program focused on the discovery of additional next-generation skeletal muscle activators through 2017, including sponsored research at Cytokinetics.

The 2016 Amendment was subject to clearance under the Hart-Scott-Rodino Antitrust Improvements Act and became effective on the date of such clearance, on September 26, 2016 (the "Amendment Effective Date").

Option on Tirasemtiv

In connection with the execution of the 2016 Amendment, the Company received a $15.0 million non-refundable option fee for the grant of the option on tirasemtiv in October 2016. Prior to Astellas' exercise of the option, the Company will continue the development of tirasemtiv, including the VITALITY-ALS trial, at its own expense to support regulatory approval in the U.S., EU and certain other jurisdictions and will retain the final decision making authority on the development of tirasemtiv. If Astellas exercises the option, the Company will grant Astellas an exclusive license to develop and commercialize tirasemtiv outside the Company's own commercialization territory of North America, Europe and other select countries ("License on Tirasemtiv") under a Tirasemtiv License and Collaboration Agreement ("Tirasemtiv License Agreement"). Each party would be primarily responsible for the further development of tirasemtiv in its territory and have the exclusive right to commercialize tirasemtiv in its territory.

If Astellas exercises its option for a global collaboration for the development and commercialization of tirasemtiv, the Company will receive an option exercise payment ranging from $25.0 million (if exercise occurs following receipt of data from the VITALITY-ALS trial) to $80.0 million (if exercise occurs following receipt of FDA approval). In addition, the Company is eligible to receive a potential milestone payment from Astellas associated with the Company's initiation of the VIGOR-ALS open-label extension trial for tirasemtiv. Such milestone would be $30 million, provided, however, that the amount will be reduced to $15.0 million if (i) Astellas elects to pay such milestone payment at the time the trial commences (if prior to Astellas' exercise of its option on tirasemtiv) or (ii) Astellas has exercised said option as of the time the trial commences. The Company will be responsible for the development costs of tirasemtiv during the option period, but if Astellas exercises the option after the defined review period following receipt of data from VITALITY-ALS, Astellas will at the time of option exercise reimburse the Company for a share of any additional costs incurred after such review period.

If Astellas exercises the option for tirasemtiv, the parties will share the future development costs of tirasemtiv in North America, Europe and certain other countries (with Cytokinetics bearing 75% of such shared costs and Astellas bearing 25% of such costs), and Astellas will be solely responsible for the development costs of tirasemtiv specific to its commercialization territory. Contingent upon the successful development of tirasemtiv, the Company may receive milestone payments up to $100.0 million for the initial indication and up to $50.0 million for each subsequent indication. If tirasemtiv is commercialized, Astellas will pay the Company royalties (at rates ranging from the mid-teens to twenty percent) on sales of tirasemtiv in Astellas' territory, and the Company will pay Astellas royalties (at rates up to the mid-teens) on sales of tirasemtiv in the Company's territory, in each case subject to various possible adjustments.

The Company concluded that the option to obtain the License on Tirasemtiv is a substantive option, and is therefore not considered a deliverable at the execution of the 2016 Amendment. The Company determined that the Tirasemtiv License Agreement is contingent upon the exercise of the Option on Tirasemtiv, and is therefore not effective during the periods presented, since the option has not been exercised as of the latest balance sheet date. In addition, the Company did evaluate the consideration set to be received for the License on Tirasemtiv in relation to the fair value of the License on Tirasemtiv, and determined that it was not being provided at a significant incremental discount.

The Company further determined that the Option Fee of $15.0 million was deemed to be a prepayment towards the License on Tirasemtiv, and therefore deferred revenue recognition either until the option is exercised, or until the option expires unexercised. If the option on tirasemtiv expires unexercised, the $15.0 million receipt would be added to the 2016 Amendment consideration, to be allocated to the units of accounting. The Option on Tirasemtiv expires, if not exercised by Astellas, following the receipt of the approval letter for tirasemtiv from the FDA.

Prior to Astellas' exercise of the option, the Company will continue the development of tirasemtiv, including the VITALITY-ALS trial, at its own expense to support regulatory approval in the U.S., EU and certain other jurisdictions, and the Company has complete discretion to continue to conduct clinical trials, and will retain the final decision making authority on the development of tirasemtiv. Therefore, the Company concluded that there was no obligation related to any development services during the option period.

Addition of ALS as an Added Indication (CK-107and other fast skeletal activators)

In connection with the execution of the 2016 Amendment, the Company received a non-refundable upfront amendment fee of $35 million. In addition, the Company received the accelerated payment of a $15 million milestone for the initiation of the first Phase 2 clinical trial of CK-107 as the lead compound in ALS that was otherwise provided for in the 2014 Astellas Agreement, as if such milestone has been achieved upon the execution of the 2016 Amendment. The parties will share equally the costs of developing CK-107 in ALS for potential registration and marketing authorization in the U.S. and Europe, provided that (i) Astellas has agreed to solely fund Phase 2 development costs of CK-107 in ALS subject to a right to recoup the Company's share of such costs plus a 100% premium by reducing future milestone and royalty payments to the Company and (ii) the Company may defer (but not eliminate) a portion of its co-funding obligation for development activities after Phase 2 for up to 18 months, subject to certain conditions. The Company has the right to co-fund its share of such Phase 2 development costs on a current basis, in which case there would not be a premium due to Astellas. Cytokinetics will also receive approximately $44.2 million in additional sponsored research and development funding through 2018 which includes Astellas' funding of Cytokinetics' conduct of the Phase 2 clinical development of CK-2127107 in ALS (approximately $39.1 million) as well as the continuing research collaboration (approximately $5.1 million).

Pursuant to the 2016 Amendment, the Company and Astellas will collaborate to develop CK-107 in ALS. Astellas will be primarily responsible for the development of CK-107 in ALS including the Phase 3 clinical trial efforts in ALS, but the Company will conduct the Phase 2 clinical trial of CK-107 in ALS. Subject to specified guiding principles, decision making will be by consensus, subject to escalation and, if necessary, Astellas' final decision making authority on the development (including regulatory affairs), manufacturing, medical affairs and commercialization of CK-107 and other fast skeletal regulatory activators in ALS.

The Company determined that the deliverables under the 2016 Amendment included (1) the ALS License, (2) CK-107 development services in ALS through Phase 2 activities ("ALS Development Services"), and (3) research services added ("Additional Research Services"). Deliverables that do not provide standalone value have been combined with other deliverables to form a unit of accounting that collectively has standalone value, with revenue being recognized on the combined unit of accounting, rather than the individual deliverables. There are no rights of return provisions for the delivered items in the Current Astellas Agreements.

The Company considered the 2016 Amendment to be a modification of the 2014 Astellas Agreement. The remaining deliverables under the 2014 Astellas Agreement are: (1) the SMA license; (2) Research Services in connection with the Research Plan (through 2016); and (3) SMA Development Services in connection with the Development Plan. The Company evaluated the components and consideration of the 2016 Amendment against other Phase 2 collaboration arrangements, and determined that the new 2016 deliverables had standalone value and are delivered at fair value. Therefore no reallocation of consideration to the 2014 deliverables was performed.

The Company concluded that there are two units of accounting; the ALS License, and the Additional Research Services and ALS Development Services ("Research and ALS Development Services"). The Company also determined that the ALS License has standalone value since (1) Astellas received a worldwide license for ALS, to perform further research in the field of ALS, to develop and use CK-107 to make, have make, sell or otherwise commercialize CK-107 in ALS; (2) Astellas has the right to sublicense the rights to CK-107 in ALS to a third party; and (3) Astellas has the technical capabilities to advance further development on CK-107 in ALS, without the continued involvement of the Company.

Arrangement Consideration under the 2016 Amendment related to CK-107 and research is comprised of the following (in millions):

	Arrangement Consideration
Amendment Fee	$ 35.0
Accelerated milestone payment	15.0
Total Upfront Consideration	50.0
Additional Research Services	5.1
ALS Development Services	39.1
Total Committed Consideration	44.2
Total Consideration	$ 94.2

The Company allocated the $50.0 million in upfront consideration along with the $44.2 million in committed research and development consideration, among the two units of accounting, on a relative fair value basis, using the best estimated selling price ("BESP"). The BESP of the ALS License was determined using a discounted cash flow, risk adjusted for probability of success; while the BESP of the research and development services were determined using estimated research and development cost, included in the research and development programs approved by Astellas. Based on this allocation of consideration, the Company stands to recognize $74.9 million in license revenue and $19.3 in research and development revenue, under the 2016 Amendment. Since the upfront consideration of $50 million is less than the allocated consideration of the ALS License, the Company will recognize $50 million in license revenue on the Amendment Effective Date, in September 2016, and record the remaining $24.9 million as an allocation from research and development services, when those services are performed.

Allocation of arrangement consideration, and revenue recognition (in millions):

	Allocated Consideration	Upfront Revenue Recognition	Revenue Recognition over Performance Period
Units of Accounting:			
ALS License	$ 74.9	$ 50.0	$ 24.9
Research and ALS Development Services	19.3	—	19.3
Total consideration	$ 94.2	$ 50.0	$ 44.2

During the three and nine months ended September 30, 2016, the Company recorded $50.0 million in license revenue under the 2016 Amendment.

The Company will recognize the research and development services using the proportional performance model over the initial development term, through the completion of the ALS Development Services. Pursuant to the 2016 Amendment, the Company receives payment for research and development revenue from Astellas for reimbursements of internal costs of certain full-time employee equivalents, supporting collaborative research and development programs, and of other costs related to those programs.

During the three and nine months ended September 30, 2016, the Company recorded no research and development revenue from Astellas, under the 2016 Amendment.

The Company believes that each of the milestones related to research under the Current Astellas Agreement is substantive and can only be achieved with the Company's past and current performance and each milestone will result in additional payments to the Company. During the three and nine months ended September 30, 2016, the Company recorded $2.0 million in milestone revenue for research under this agreement, related to the initiation of IND-enabling studies for a fast skeletal muscle activator. The Company is eligible to receive up to $2.0 million in research milestone payments under the collaboration for each future potential drug candidate.

The achievement of each of the late stage development milestones and the commercialization milestones are dependent solely upon the results of Astellas' development activities and therefore these milestones were not deemed to be substantive.

Under the Current Astellas Agreement, additional research and early and late state development milestone payments which are based on various research and clinical milestones, including the initiation of certain clinical studies, the submission for approval of a drug candidate to certain regulatory authorities for marketing approval and the commercial launch of collaboration products could total over $600.0 million, including up to $95.0 million relating to CK-2127107 in non-neuromuscular indications, and over $100.0 million related to CK-2127107 in each of SMA, ALS and other neuromuscular indications. Additionally, $200.0 million in commercial milestones could be received under the 2014 Astellas Agreement provided certain sales targets are met. Due to the nature of drug development, including the inherent risk of development and approval of drug candidates by regulatory authorities, it is not possible to estimate if and when these milestone payments could become due.

In the event Astellas commercializes any collaboration products, the Company will receive royalties on sales of such collaboration products, including royalties ranging from the high single digits to the high teens on sales of products containing CK-2127107. Cytokinetics also holds an option to co-fund certain development costs for CK-2127107 and other compounds in exchange for increased milestone payments and royalties; such royalties may increase under certain scenarios to exceed twenty percent. Under the Current Astellas Agreement, Cytokinetics retains an option to co-promote collaboration products containing fast skeletal muscle activators for neuromuscular indications in the U.S., Canada and Europe, in addition to its option to co-promote other collaboration products in the U.S. and Canada as provided for in the Original Astellas Agreement. Astellas will reimburse Cytokinetics for certain expenses associated with its co-promotion activities.

Research and development revenue from Astellas was as follows (in thousands):

	Three Months Ended September 30, 2016	Three Months Ended September 30, 2015	Nine Months Ended September 30, 2016	Nine Months Ended September 30, 2015
License Revenues from Related Parties	$ 53,033	$ 4,132	$ 58,956	$ 8,787
Research and development revenues with related parties:				
Reimbursement of internal costs	1,448	1,552	5,173	4,082
Reimbursement of other costs	1,508	1,636	4,361	4,121
Research and development milestone fees	2,000	—	2,000	—
Total research and development revenue with related parties from Astellas	4,956	3,188	11,534	8,203
Total Revenue from Astellas	$ 57,989	$ 7,320	$ 70,490	$ 16,990

Related party accounts receivable from Astellas were as follows (in thousands):

	September 30, 2016	December 31, 2015
Related party accounts receivable — Astellas	$ 67,000	$ —

At September 30, 2016 and December 31, 2015, the Company had $26.1 million and $20.4 million, respectively, of deferred revenue under the Current Astellas Agreement, reflecting the unrecognized portion of the license revenue, option fee and payment of expenses.

Note 5 — Cash Equivalents and Investments

Cash Equivalents and Available for Sale Investments

The amortized cost and fair value of cash equivalents and available for sale investments at September 30, 2016 and December 31, 2015 were as follows (in thousands):

	September 30, 2016				
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value	Maturity Dates
Cash equivalents — money market funds and U.S. Treasury securities	$ 30,300	$ —	$ —	$30,300	
Short-term investments — U.S. Treasury securities	$ 48,281	$ 28	$ —	$48,309	10/2016-9/2017
Long-term investments — Equity and U.S. Treasury securities	$ 7,512	$ 225	$ —	$ 7,737	10/2017-2/2018

	December 31, 2015				
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value	Maturity Dates
Cash equivalents — money market funds	$ 63,136	$ —	$ —	$63,136	
Short-term investments — U.S. Treasury securities	$ 46,395	$ 1	$ (30)	$46,366	2/2016-8/2016
Long-term investments — Equity securities	$ —	$ 179	$ —	$ 179	

At September 30, 2016 there were no investments that had been in a continuous unrealized loss position for 12 months or longer. The Company collected the contractual cash flows on its U.S. Treasury securities that matured from October 1, 2016 through October 27, 2016 and expects to be able to collect all contractual cash flows on the remaining maturities of its U.S. Treasury securities.

Interest income was as follows (in thousands):

	Three Months Ended		Nine Months Ended	
	September 30, 2016	September 30, 2015	September 30, 2016	September 30, 2015
Interest income	$ 114	$ 38	$ 282	$ 114

Note 6 — Fair Value Measurements

The Company follows the fair value accounting guidance to value its financial assets and liabilities. Fair value is defined as the price that would be received for assets when sold or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). The Company utilizes market data or assumptions that the Company believes market participants would use in pricing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique. These inputs can be readily observable, market corroborated or generally unobservable.

The Company primarily applies the market approach for recurring fair value measurements and endeavors to utilize the best information reasonably available. Accordingly, the Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible, and considers the security issuers' and the third-party insurers' credit risk in its assessment of fair value.

The Company classifies the determined fair value based on the observability of those inputs. Fair value accounting guidance establishes a fair value hierarchy that prioritizes the inputs used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurement) and the lowest priority to unobservable inputs (Level 3 measurement). The three defined levels of the fair value hierarchy are as follows:

Level 1 — Observable inputs, such as quoted prices in active markets for identical assets or liabilities;

Level 2 — Inputs, other than the quoted prices in active markets, that are observable either directly or through corroboration with observable market data; and

Level 3 — Unobservable inputs, for which there is little or no market data for the assets or liabilities, such as internally-developed valuation models.

Financial assets measured at fair value on a recurring basis as of September 30, 2016 and December 31, 2015 are classified in the table below in one of the three categories described above (in thousands):

	September 30, 2016			
	Fair Value Measurements Using			Assets
	Level 1	Level 2	Level 3	At Fair Value
Assets:				
Money market funds	$ 30,300	$ —	$ —	$ 30,300
U.S. Treasury securities	55,824	—	—	55,824
Equity securities	222	—	—	222
Total	$ 86,346	$ —	$ —	$ 86,346
Amounts included in:				
Cash and cash equivalents	$ 30,300	$ —	$ —	$ 30,300
Short-term investments	48,309	—	—	48,309
Long-term investments	7,737	—	—	7,737
Total	$ 86,346	$ —	$ —	$ 86,346

	December 31, 2015			
	Fair Value Measurements Using			Assets
	Level 1	Level 2	Level 3	At Fair Value
Assets:				
Money market funds	$ 63,136	$ —	$ —	$ 63,136
U.S. Treasury securities	46,366	—	—	46,366
Equity securities	179	—	—	179
Total	$ 109,681	$ —	$ —	$ 109,681
Amounts included in:				
Cash and cash equivalents	$ 63,136	$ —	$ —	$ 63,136
Short-term investments	46,366	—	—	46,366
Long-term investments	179	—	—	179
Total	$ 109,681	$ —	$ —	$ 109,681

The valuation technique used to measure fair value for the Company's Level 1 assets is a market approach, using prices and other relevant information generated by market transactions involving identical assets. As of September 30, 2016 and December 31, 2015, the Company had no financial assets measured at fair value on a recurring basis using significant Level 2 or Level 3 inputs. The carrying amount of the Company's accounts receivable and accounts payable approximates fair value due to the short-term nature of these instruments.

Long Term Debt:

As of September 30, 2016 and December 31, 2015, the fair value of the long-term debt, payable in installments through year ended 2020, approximated its carrying value of $29.7 million and $14.6 million, respectively, because it is carried at a market observable interest rate, which are considered Level 2.

Note 7 — Balance Sheet Components

Accrued liabilities were as follows (in thousands):

	September 30, 2016	December 31, 2015
Accrued liabilities:		
Clinical and preclinical costs	$ 9,952	$ 3,513
General and administrative costs	2,349	392
Bonus	2,876	2,720
Payroll related costs	1,991	1,464
Other accrued expenses	615	332
	$ 17,783	$ 8,421

Note 8 — Long-Term Debt

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

	September 30, 2016	December 31 2015
Notes payable, gross	$ 30,000	$ 15,000
Less: Unamortized debt discount	(522)	(389)
Accretion of final payment fee	264	28
Carrying value of notes payable	$ 29,742	$ 14,639

In October 2015, the Company entered into a loan and security agreement (the "Loan Agreement") with Oxford Finance LLC ("Oxford,") as the collateral agent and a lender, and Silicon Valley Bank ("SVB,") as a lender (Oxford and SVB collectively the "Lenders") to fund its working capital and other general corporate needs. The Loan Agreement provided for (1) term loans of up to $40.0 million in aggregate, (2) warrants to purchase 65,189 shares of the Company's common stock at an exercise price of $6.90 per share under the first term loan, and (3) additional warrants to purchase shares of the Company's common stock to be based on the amount of the additional term loans and a price per share determined on the day of funding in accordance with the Grant Agreement, which is also the exercise price per share for the warrants.

The Company drew down $15.0 million in funds under the Loan Agreement in October 2015 at the time of the first draw down, and at that time, could at its sole discretion draw down an additional $25.0 million under the Loan Agreement in two term loans, provided certain specified conditions stipulated in the Loan Agreement are met preceding those draws. During February 2016, the Company drew down an additional $15.0 million in funds under the Loan Agreement and issued warrants to purchase 68,285 shares of the Company's common stock at an exercise price of $6.59 per share under the second term loan. As of September 30, 2016, there were 133,474 warrants outstanding and exercisable. As of September 30, 2016 the Company has received $29.8 million from this loan and security agreement, net of issuance cost. The Company can at its sole discretion draw down an additional $10.0 million under the Loan Agreement from the Lenders, at any time prior to March 31, 2017, subject to the Company's satisfaction of specified conditions precedent related to the earlier of (i) the occurrence of an equity event as described in the Loan Agreement, or (ii) specified results from the Company's VITALITY-ALS Phase 3 trial of tirasemtiv, each as specified in the Loan Agreement.

The Company is required to repay the outstanding principal in 36 equal installments beginning October 2017 and is due in full in October 2020. The first and second term loans bear interest at a rate of 7.5% per annum, respectively. The remaining term loans, if drawn, will bear interest at a rate fixed at the time of draw, equal to the greater of (i) 7.50% and (ii) the sum of the three month U.S. LIBOR rate plus 7.31%. The Company is required to make a final payment fee of 4.00% of the amounts of the Term Loans drawn payable on the earlier of (i) the prepayment of the Term Loans or (ii) the Maturity Date. The loan carries prepayment penalties of 3% and 2% for prepayment within one and two years, respectively, of the loan origination and 1% thereafter. The warrants issued in the Loan Agreement became exercisable upon issuance and will remain exercisable for five years from issuance or the closing of a merger consolidation transaction in which the Company is not the surviving entity.

In accordance with the accounting guidance, the Company allocated a portion of the gross proceeds from each draw down under the Loan Agreement to the underlying warrants, using the relative fair value method. This resulted in the allocation of $0.6 million of the draw down proceeds to the warrants, which was accounted for as debt discount. Debt discount is being amortized over the term of the debt, and recorded in interest expense in the statement of operations. The fair value of the warrants was determined using the Black-Scholes pricing model.

The Loan Agreement contains customary representations and warranties and customary affirmative and negative covenants applicable to the Company and its subsidiaries, including, among other things, restrictions on dispositions, changes in business, management, ownership or business locations, mergers or acquisitions, indebtedness, encumbrances, distributions, investments, transactions with affiliates and subordinated debt. The Agreement also includes customary events of default, including but not limited to the nonpayment of principal or interest, violations of covenants, material adverse changes, attachment, levy, restraint on business, cross-defaults on material indebtedness, bankruptcy, material judgments, misrepresentations, subordinated debt, governmental approvals, lien priority and delisting. Upon an event of default, the Lenders may, among other things, accelerate the loans and foreclose on the collateral. The Company's obligations under the Agreement are secured by substantially all of the Company's current and future assets, other than its intellectual property.

The Company recorded interest expense related to the long term debt of $0.7 million and $2.0 million for the three and nine months ended September 30, 2016. Included in interest expense for this period was interest on principal, amortization of the debt discount and debt issuance costs, and the accretion of the final payment fee. For the three and nine months ended September 30, 2016, the effective interest rate on the amounts borrowed under the Agreement, including the amortization of the debt discount and issuance cost, and the accretion of the final payment, was 9.3%. No interest expense was recorded during the three and nine months ended September 30, 2015.

Future minimum payments under the Loan, as of September 30, 2016 are as follows (in thousands):

Remainder of 2016	$ 575
2017	4,768
2018	11,743
2019	10,982
2020	8,938
Total minimum payments	37,006
Less: Interest and final payment	(7,006)
Notes payable, gross	$30,000

Note 9 — Stockholders' Equity

Accumulated Other Comprehensive Loss

Comprehensive loss is comprised of net loss and other comprehensive income (loss). Other comprehensive income (loss) is comprised of unrealized holding gains and losses on the Company's available-for-sale securities that are excluded from net loss and reported separately in stockholders' equity.

In the first three and nine months of 2016 and 2015, the Company recorded insignificant amounts of unrealized gains (losses) in available-for-sale securities in accumulated other comprehensive loss, and did not reclassify any unrealized gains on investments from accumulated other comprehensive income into net loss.

Warrants

As of September 30, 2016, the Company had warrants outstanding to purchase 4.3 million shares of the Company's common stock.

In June 2012, warrants were issued pursuant to the June 2012 underwriting agreements the Company entered into in connection with two separate, concurrent offerings for our securities (the "June 2012 Public Offerings"). In accordance with the accounting guidance for valuing stock and warrants when stock is issued in conjunction with other securities, and the stock and other securities are to be accounted for as equity, the Company allocated the gross purchase proceeds using the relative fair value method. For accounting purposes, the June 2012 Public Offerings were considered to be one transaction. The fair value of the common stock issued in the June 2012 Public Offerings was calculated based on the closing price of the stock on the commitment date as quoted on The NASDAQ Global Market.

In October 2015, warrants to purchase 65,189 shares of the Company's common stock at an exercise price of $6.90 per share were issued in accordance with the Loan Agreement. Refer to Note 8 "Long-Term Debt", for further details regarding the Loan Agreement.

In February 2016, warrants to purchase 68,285 shares of the Company's common stock at an exercise price of $6.59 per share were issued in accordance with the Loan Agreement. The Company valued the warrants as of the date of issuance at $288,000 using the Black-Scholes option pricing model and the following assumptions: a contractual term of five years, a risk-free interest rate of 1.7%, volatility of 75%, and the fair value of the Company's common stock of $7.00.

In August 2016, warrants to purchase 104,533 shares of the Company's common stock at an exercise price of $5.28 per share were cash exercised in accordance with the June 2012 public offerings underwriting agreements.

In September 2016, the Company issued 690,580 shares of common stock related to cashless exercises of warrants in accordance with the June 2012 public offerings.

Outstanding warrants as of September 30, 2016 were as follows:

	Number of Shares	Exercise Price	Expiration Date
Issued 6/25/2012	4,168,914	$ 5.28	06/25/17
Issued 10/19/2015	65,189	$ 6.90	10/19/20
Issued 02/10/2016	68,285	$ 6.59	02/10/21

Committed Equity Offering

On September 4, 2015, the Company entered into an Committed Equity Offering (an "CE Offering") that is an at-the-market issuance sales agreement (the "Cantor Fitzgerald Agreement") with Cantor Fitzgerald & Co. ("Cantor Fitzgerald"), pursuant to which the Company may issue and sell shares of common stock having an aggregate offering price of up to $40.0 million, from time to time through Cantor Fitzgerald as its sales agent. The issuance and sale of these shares by the Company under the Cantor Fitzgerald Agreement, if any, are subject to the continued effectiveness of its registration statement on Form S-3, which was declared effective by the SEC on September 17, 2015 (File No. 333-206795).

Sales of the Company's common stock through Cantor Fitzgerald, if any, will be made on The NASDAQ Global Market by means of ordinary brokers' transactions at market prices or as otherwise agreed to by the Company and Cantor Fitzgerald. Subject to the terms and conditions of the Cantor Fitzgerald Agreement, Cantor Fitzgerald will use commercially reasonable efforts to sell the Company's common stock from time to time, based upon our instructions (including any price, time or size limits or other customary parameters or conditions we may impose). The Company is not obligated to make any sales of common stock under the Cantor Fitzgerald Agreement. The offering of shares of common stock pursuant to the Cantor Fitzgerald Agreement will terminate upon the earlier of (1) the sale of all common stock subject to the Cantor Fitzgerald Agreement or (2) termination of the Cantor Fitzgerald Agreement. The Cantor Fitzgerald Agreement may be terminated by Cantor Fitzgerald at any time upon ten days notice to the Company or may be terminated by the Company at any time upon five days notice to Cantor Fitzgerald, or by Cantor Fitzgerald at any time in certain circumstances, including the occurrence of a material adverse change in the Company's business. The Company will pay Cantor Fitzgerald a commission rate equal to 3.0% of the gross proceeds of the sales price per share of any common stock sold through Cantor Fitzgerald under the Cantor Fitzgerald Agreement. The Company has also provided Cantor Fitzgerald with customary indemnification and contribution rights. Through December 31, 2015, 808,193 shares have been issued through Cantor Fitzgerald under the Cantor Fitzgerald Agreement for total net proceeds of approximately $8.7 million. During the nine months ended September 30, 2016, no additional shares have been issued under the Cantor Fitzgerald Agreement.

Equity Incentive Plan

Total employee stock-based compensation expenses were $1.9 million and $1.1 million for the three months ended September 30, 2016 and 2015, respectively and $5.3 million and $3.2 million for the nine months ended September 30, 2016 and 2015, respectively.

Stock Options

Activity under the 2004 Equity Incentive Plan, for the nine months ended September 30, 2016, was as follows:

	Shares Available for Grant of Options or Awards	Stock Options Outstanding	Weighted Average Exercise Price per Share of Stock Options
Balance at December 31, 2015	2,816,010	4,078,159	$ 10.94
Options granted	(1,415,875)	1,415,875	7.03
Options exercised	—	(55,341)	6.44
Options forfeited/expired	246,649	(246,649)	24.83
Restricted stock units granted	(47,000)	—	
Restricted stock units forfeited	8,500	—	
Balance at September 30, 2016	1,608,284	5,192,044	$ 9.26

Restricted Stock Units

Restricted stock unit activity for the nine months ended September 30, 2016 was as follows:

	Number of Shares	Weighted Average Award Date Fair Value per Share
Restricted stock units outstanding at December 31, 2015	71,752	$ 8.49
Restricted stock units granted	47,000	6.67
Restricted stock units released	(45,750)	8.69
Restricted stock units forfeited	(8,500)	7.20
Unvested restricted stock units outstanding at September 30, 2016	64,502	$ 7.19

Restricted stock activities were limited to non-executive employees for the nine months ended September 30, 2016.

Restricted Stock Units that Contain Performance Conditions

Performance stock unit activity was as follows:

	Number of Shares	Weighted Average Award Date Fair Value per Share
Performance stock units outstanding at December 31, 2015	685,000	$ 7.00
Restricted stock units granted	—	—
Restricted stock units vested	—	—
Restricted stock units forfeited	—	—
Unvested restricted stock units outstanding at September 30, 2016	685,000	$ 7.00

As of September 30, 2016, all these performance stock units remain unvested.

Note 10 — Interest and Other Income, Net

Interest and other income, net for the three and nine months ended September 30, 2016 and for the three and nine months ended September 30, 2015 primarily consisted of interest income generated from the Company's cash, cash equivalents and investments.

Note 11 — Commitments and Contingencies

Commitments

The Company leases office space and equipment under a non-cancelable operating lease that expires in 2018, with an option to extend the lease for an additional three-year period. The lease terms provide for rental payments on a graduated scale and the Company's payment of certain operating expenses. During March 2016, the Company amended the lease agreement to include certain additional operating expenses, related to the replacement of two boilers. The Company recognizes rent expense on a straight-line basis over the lease period. Rent expense was $0.9 million and $0.8 million, respectively, for the three months ended September 30, 2016 and 2015, and $2.6 and $2.5 million, respectively, for the nine months ended September 30, 2016 and 2015.

Contingencies

In the ordinary course of business, the Company may provide indemnifications of varying scope and terms to vendors, lessors, business partners and other parties with respect to certain matters, including, but not limited to, losses arising out of the Company's breach of such agreements, services to be provided by or on behalf of the Company, or from intellectual property infringement claims made by third parties. In addition, the Company has entered into indemnification agreements with its directors and certain of its officers and employees that will require the Company, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors, officers or employees. The Company maintains director and officer insurance, which may cover certain liabilities arising from its obligation to indemnify its directors and certain of its officers and employees, and former officers and directors in certain circumstances. The Company maintains product liability insurance and comprehensive general liability insurance, which may cover certain liabilities arising from its indemnification obligations. It is not possible to determine the maximum potential amount of exposure under these indemnification obligations due to the limited history of prior indemnification claims and the unique facts and circumstances involved in each particular indemnification obligation. Such indemnification obligations may not be subject to maximum loss clauses. Management is not currently aware of any matters that could have a material adverse effect on the financial position, results of operations or cash flows of the Company.

In December 2014, the Company filed a lawsuit alleging fraudulent inducement, breach of contract and negligence on the part of a contract research organization for the BENEFIT-ALS clinical trial. The Company was seeking monetary damages. On June 7, 2016 the Company entered into a settlement agreement with the contract research organization for $4.5 million. The Company received payment related to the settlement agreement in July 2016 and the full settlement amount was classified as a reduction of R&D expense in June 2016.

Note 12 — Income Taxes

During the three and nine months ended September 30, 2016 and 2015, the Company did not record a provision for income taxes because it expected to generate a net operating loss for the year ending December 31, 2016 and 2015, respectively.

The Company defines the threshold for recognizing the benefits of tax return positions in the financial statements as "more-likely-than-not" to be sustained by the taxing authorities based solely on the technical merits of the position. If the recognition threshold is met, the tax benefit is measured and recognized as the largest amount of tax benefit that, in the Company's judgment, is greater than 50% likely to be realized.

The significant jurisdictions in which the Company files income tax returns are the United States and the state of California. For jurisdictions in which tax filings are made, the Company is subject to income tax examination for all fiscal years since inception. The IRS's Large Business and International Division concluded its audit of the 2009 tax year with no material adjustments. However, in general, the statute of limitations for tax liabilities for these years remains open for the purpose of adjusting the amounts of the losses and credits carried forward from those years. The Company believes that it maintains adequate reserves for uncertain tax positions.

In general, under Section 382 of the Internal Revenue Code ("Section 382"), a corporation that undergoes an 'ownership change' is subject to limitations on its ability to utilize its pre-change net operating losses ("NOLs") and tax credits to offset future taxable income. The Company has performed a Section 382 analysis as of September 30, 2016 and does not believe that it has experienced an ownership change since 2006. A portion of the Company's existing NOLs and tax credits are subject to limitations arising from previous ownership changes. Future changes in the Company's stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 and result in additional limitations.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This discussion and analysis should be read in conjunction with our financial statements and accompanying notes included elsewhere in this report. Operating results are not necessarily indicative of results that may occur in future periods.

This report contains forward-looking statements indicating expectations about future performance and other forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the Private Securities Litigation Reform Act of 1995, that involve risks and uncertainties. We intend that such statements be protected by the safe harbor created thereby. Forward-looking statements involve risks and uncertainties and our actual results and the timing of events may differ significantly from the results discussed in the forward-looking statements. Examples of such forward-looking statements include, but are not limited to, statements about or relating to:

- guidance concerning revenues, research and development expenses and general and administrative expenses for 2016;
- the sufficiency of existing resources to fund our operations for at least the next 12 months;
- our capital requirements and needs for additional financing;
- the initiation, design, conduct, enrollment, progress, timing and scope of clinical trials and development activities for our drug candidates conducted by ourselves or our partners, Amgen Inc. and Astellas Pharma Inc. ("Astellas"), including the anticipated timing for initiation of clinical trials, anticipated rates of enrollment for clinical trials and anticipated timing of results becoming available or being announced from clinical trials;
- the results from the clinical trials, the non-clinical studies and chemistry, manufacturing, and controls (CMC) of our drug candidates and other compounds, and the significance and utility of such results;
- anticipated interactions with regulatory authorities;
- the further development of tirasemtiv for the potential treatment of amyotrophic lateral sclerosis (ALS);
- the expected acceptability by regulatory authorities of the effects of tirasemtiv on slow vital capacity or other measures of clinical benefit related to respiratory function in patients with ALS as Phase 3 clinical trial endpoints to support the registration of tirasemtiv as a treatment for ALS;
- our and our partners' plans or ability to conduct the continued research and development of our drug candidates and other compounds;
- the advancement of omecamtiv mecarbil into Phase 3 clinical development;
- our expected roles in research, development or commercialization under our strategic alliances with Amgen and Astellas;
- the properties and potential benefits of, and the potential market opportunities for, our drug candidates and other compounds, including the potential indications for which they may be developed;
- the sufficiency of the clinical trials conducted with our drug candidates to demonstrate that they are safe and efficacious;
- our receipt of milestone payments, royalties, reimbursements and other funds from current or future partners under strategic alliances, such as with Amgen or Astellas;
- our ability to continue to identify additional potential drug candidates that may be suitable for clinical development;
- our plans or ability to commercialize drugs with or without a partner, including our intention to develop sales and marketing capabilities;
- the focus, scope and size of our research and development activities and programs;
- the utility of our focus on the biology of muscle function, and our ability to leverage our experience in muscle contractility to other muscle functions;
- our ability to protect our intellectual property and to avoid infringing the intellectual property rights of others;
- expected future sources of revenue and capital;
- losses, costs, expenses and expenditures;
- future payments and other obligations under loan and lease agreements
- potential competitors and competitive products;
- retaining key personnel and recruiting additional key personnel;
- expected timing for recognition of compensation cost related to unvested stock options; and
- the potential impact of recent accounting pronouncements on our financial position or results of operations.

Such forward-looking statements involve risks and uncertainties, including, but not limited to:

- further clinical development of tirasemtiv for the potential treatment of ALS will require significant additional funding and we may be unable to obtain such additional funding on acceptable terms, if at all;
- the U.S. Food and Drug Administration ("FDA") and/or other regulatory authorities may not accept effects on respiratory function, including slow vital capacity, as an appropriate clinical trial endpoints to support the registration of tirasemtiv for the treatment of ALS;
- Amgen's decisions with respect to the timing, design and conduct of research and development activities for omecamtiv mecarbil and related compounds, including decisions to postpone or discontinue research or development activities relating to omecamtiv mecarbil and related compounds;
- Astellas' decisions with respect to the timing, design and conduct of research and development activities for CK-2127107 and other skeletal muscle activators, including decisions to postpone or discontinue research or development activities relating to CK-2127107 and other skeletal muscle activators, as well as Astellas' decisions with respect to its option to enter into a global collaboration for the development and commercialization of tirasemtiv;
- our ability to enter into strategic partnership agreements for any of our programs on acceptable terms and conditions or in accordance with our planned timelines;
- our ability to obtain additional financing on acceptable terms, if at all;
- our receipt of funds and access to other resources under our current or future strategic alliances;
- difficulties or delays in the development, testing, manufacturing or commercialization of our drug candidates;
- difficulties or delays, or slower than anticipated patient enrollment in our or partners' clinical trials;
- difficulties or delays in the manufacture and supply of clinical trial materials;
- failure by our contract research organizations, contract manufacturing organizations and other vendors to properly fulfill their obligations or otherwise perform as expected;
- results from non-clinical studies that may adversely impact the timing or the further development of our drug candidates and other compounds;
- the possibility that the U.S. Food and Drug Administration ("FDA") or foreign regulatory agencies may delay or limit our or our partners' ability to conduct clinical trials or may delay or withhold approvals for the manufacture and sale of our products;
- changing standards of care and the introduction of products by competitors or alternative therapies for the treatment of indications we target that may limit the commercial potential of our drug candidates;
- difficulties or delays in achieving market access and reimbursement for our drug candidates and the potential impacts of health care reform;
- changes in laws and regulations applicable to drug development, commercialization or reimbursement;
- the uncertainty of protection for our intellectual property, whether in the form of patents, trade secrets or otherwise;
- potential infringement or misuse by us of the intellectual property rights of third parties;
- activities and decisions of, and market conditions affecting, current and future strategic partners;
- accrual information provided by our contract research organizations and other vendors;
- potential ownership changes under Internal Revenue Code Section 382; and
- the timeliness and accuracy of information filed with the U.S. Securities and Exchange Commission (the "SEC") by third parties.

In addition such statements are subject to the risks and uncertainties discussed in the "Risk Factors" section and elsewhere in this document. Such statements speak only as of the date on which they are made, and, except as required by law, we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

When used in this report, unless otherwise indicated, "Cytokinetics," "the Company," "we," "our" and "us" refers to Cytokinetics, Incorporated. CYTOKINETICS, and our logo used alone and with the mark CYTOKINETICS, are registered service marks and trademarks of Cytokinetics. Other service marks, trademarks and trade names referred to in this report are the property of their respective owners.

Overview

We were incorporated in Delaware in August 1997 as Cytokinetics, Incorporated. We are a late-stage biopharmaceutical company focused on the discovery and development of first-in-class muscle activators as potential treatments for debilitating diseases in which muscle performance is compromised and or declining. Our research and development activities relating to the biology of muscle function have evolved from our knowledge and expertise regarding the cytoskeleton, a complex biological infrastructure that plays a fundamental role within every human cell. Our most advanced research and development programs relate to the biology of muscle function and are directed to small molecule modulators of the contractility of skeletal or cardiac muscle. We are also conducting earlier-stage research directed to other compounds with the potential to modulate muscle contractility and other muscle functions, such as growth, energetics and metabolism.

Our drug candidates currently in clinical development are our skeletal muscle activators tirasemtiv and CK-2127107, and our cardiac muscle activator omecamtiv mecarbil. Tirasemtiv is being evaluated for the potential treatment of ALS. CK-2127107 is being evaluated for the potential treatment of spinal muscle atrophy ("SMA") and chronic obstructive pulmonary disease ("COPD") and for potential use in other indications associated with muscle weakness (including ALS) under a strategic alliance with Astellas established in June 2013 and expanded in December 2014 and July 2016. Omecamtiv mecarbil is being evaluated for the potential treatment of heart failure under a strategic alliance with Amgen established in 2006.

Muscle Contractility Programs

Skeletal Muscle Contractility Program

Tirasemtiv is our lead drug candidate from this program. We retain exclusive rights to tirasemtiv, subject to Astellas' exercise of its option for a license to tirasemtiv (see "*Astellas' Option on Tirasemtiv"* below). We conducted a Phase 2 clinical development program for tirasemtiv, and we started a Phase 3 clinical development program for this drug candidate in patients with ALS in July 2015. In collaboration with Astellas, we are also developing another drug candidate from this program, CK-2127107, for potential indications associated with muscle weakness. We started a Phase 2 clinical trial for CK-2127107 in patients with SMA in December 2015. Astellas, in collaboration with Cytokinetics, started a Phase 2 clinical trial of CK-2127107 in patients with chronic obstructive pulmonary disease in June 2016. Tirasemtiv and CK-2127107 are structurally distinct and selective small molecules that activate the fast skeletal muscle troponin complex in the sarcomere by increasing its sensitivity to calcium, leading to an increase in skeletal muscle contractility. Each of tirasemtiv and CK-2127107 has demonstrated pharmacological activity in preclinical models and evidence of potentially clinically relevant pharmacodynamic effects in humans. We are evaluating other potential indications for which tirasemtiv and CK-2127107 may be useful.

Tirasemtiv.

Tirasemtiv (formerly known as CK-2017357), is a fast skeletal muscle troponin activator. Cytokinetics is developing this drug candidate for the potential treatment of ALS, and in July 2016, we entered into an agreement with Astellas (the "2016 Amendment") to expand our collaboration on research, development and commercialization of skeletal muscle activators under the Amended and Restated License and Collaboration Agreement with Astellas (the "2014 Astellas Agreement"). The 2016 Amendment was subject to clearance under the Hart-Scott-Rodino Antitrust Improvements Act and became effective on September 26, 2016, the date of such clearance. Under the 2016 Amendment, we granted Astellas an option to enter into a pre-negotiated agreement for a global collaboration for the development and commercialization of tirasemtiv. If Astellas exercises the option, Astellas will receive exclusive worldwide commercialization rights outside of our commercialization territory in North America, Europe and other select countries.

We conducted a Phase 2 clinical trials program for tirasemtiv, including a Phase 2b clinical trial in patients with ALS, known as BENEFIT-ALS (Blinded Evaluation of Neuromuscular Effects and Functional Improvement with Tirasemtiv in ALS). Based on the results of BENEFIT-ALS, we started VITALITY-ALS (Ventilatory Investigation of Tirasemtiv and Assessment of Longitudinal Indices after Treatment for a Year in ALS) in July 2015. Tirasemtiv has been granted orphan drug designation and fast track status by the FDA and orphan medicinal product designation by the European Medicines Agency, in each case for the potential treatment of ALS.

VITALITY-ALS is a multi-national, randomized, double-blind, placebo-controlled trial that was originally designed to enroll 445 patients with possible, probable or definite ALS diagnosed within 24 months, and with a baseline vital capacity > 70 % of predicted, based on age, sex, and height. Patients may be enrolled whether or not they are on riluzole therapy. The primary endpoint of the trial will assess change from baseline in SVC, to be assessed after 24 weeks of double-blind, placebo-controlled treatment. Secondary endpoints include time to decline from baseline in percent predicted SVC by ≥ 20 percentage points or the onset of respiratory insufficiency or death; time to decline from baseline in percent predicted SVC to ≤ 50 percent predicted or the onset of respiratory insufficiency or death; time to first occurrence of any use of assisted ventilation or death; time to decline in any of the three respiratory domains of the ALSFRS-R or death; and change in the Mega-Score of muscle strength.

Patients enrolled in VITALITY-ALS will receive two-weeks of open-label treatment with tirasemtiv administered at 250 mg/day and will then be randomized to double-blind treatment with placebo or one of three target tirasemtiv dose levels (250 mg/day, 375 mg/day, 500 mg/day) in a 3:2:2:2 ratio for a total of 48 weeks of randomized, double-blind, placebo-controlled treatment. Then in a four-week double-blind, tirasemtiv withdrawal phase, patients on tirasemtiv will be randomized either to continue the double-blind tirasemtiv dose they were receiving or to be withdrawn to placebo in a 1:1 ratio. Patients who had been receiving placebo during the 48 weeks of double-blind, placebo-controlled treatment will continue to receive placebo.

In January 2016, we amended the protocol of VITALITY-ALS to provide for an increase in the number of patients to be enrolled in the clinical trial from approximately 445 patients to approximately 600 patients. Increasing the number of patients enrolled in VITALITY-ALS will increase the statistical power to detect a difference in the primary efficacy endpoint (change from baseline in SVC at 24 weeks) between *tirasemtiv* and placebo.

In August 2016, we announced the completion of patient enrollment in VITALITY-ALS, enrolling over 700 patients in 81 centers in eleven countries. We convened the second Data Monitoring Committee Meeting for VITALITY-ALS to review unblinded safety and efficacy data; and the Committee recommended continuing the trial without modifications to the protocol.

In March 2016, we announced a research collaboration with Origent Data Sciences, Inc. (“Origent”) to refine and prospectively validate an Origent computer model to predict the course of ALS disease progression leveraging data from Cytokinetics’ clinical trials of *tirasemtiv*. Funded by Origent’s receipt of a grant from The ALS Association, this joint research program will enable the first prospective validation of the predictive model in a clinical trial setting. Previously, the Origent models predicting both function and survival of ALS patients have been validated using their internal and retrospective external datasets.

In the second quarter of 2016, the manuscript, “A randomized, placebo-controlled, double-blind phase IIb trial evaluating the safety and efficacy of tirasemtiv in patients with amyotrophic lateral sclerosis,” was published in the Amyotrophic Lateral Sclerosis and Frontotemporal Degeneration journal.

Astellas’ Option on Tirasemtiv

In connection with the execution of the 2016 Amendment, we received a $15.0 million non-refundable option fee for the grant of the option on tirasemtiv, in October 2016. Prior to Astellas’ exercise of the option, we will continue to conduct the Phase 3 development program of tirasemtiv, including the Phase 3 clinical trial for tirasemtiv in patients with ALS known as VITALITY-ALS (Ventilatory Investigation of Tirasemtiv and Assessment of Longitudinal Indices after Treatment for a Year in ALS), at our own expense to support regulatory approval in the U.S., EU and certain other jurisdictions, and we will retain the final decision making authority on the development of tirasemtiv. If Astellas exercises the option, we will grant Astellas an exclusive license to develop and commercialize tirasemtiv (“License on Tirasemtiv”) outside our commercialization territory of North America, Europe and other select countries (“Cytokinetics’ Territory”) under a Tirasemtiv License and Collaboration Agreement (“Tirasemtiv License Agreement”). Each party would be primarily responsible for the further development of tirasemtiv in its territory and have the exclusive right to commercialize tirasemtiv in its territory.

If Astellas exercises its option for a global collaboration for the development and commercialization of tirasemtiv, we will receive an option exercise payment ranging from $25.0 million (if exercise occurs following receipt of data from the VITALITY-ALS trial) to $80.0 million (if exercise occurs following receipt of FDA approval). In addition, we are eligible to receive a potential milestone payment from Astellas associated with our initiation of the VIGOR-ALS open-label extension trial for tirasemtiv. Such milestone would be $30.0 million; provided, however, that the amount will be reduced to $15 million if (i) Astellas elects to pay such milestone payment at the time the trial commences (if prior to Astellas’ exercise of its option on tirasemtiv) or (ii) Astellas has exercised said option as of the time the trial commences. We will be responsible for the development costs of tirasemtiv during the option period, but if Astellas’ exercises the option after the defined review period following receipt of data from VITALITY-ALS, Astellas will at the time of option exercise reimburse us for a share of any additional costs incurred after such review period.

If Astellas exercises the option for tirasemtiv, the parties will share the future development costs of tirasemtiv in North America, Europe and certain other countries (with Cytokinetics bearing 75% of such shared costs and Astellas bearing 25% of such costs) and Astellas will be solely responsible for the development costs of tirasemtiv specific to its commercialization territory. Contingent upon the successful development of tirasemtiv, we may receive milestone payments up to $100.0 million for the initial indication and up to $50.0 million for each subsequent indication. If tirasemtiv is commercialized, Astellas will pay us royalties (at rates ranging from the mid-teens to twenty percent) on sales of tirasemtiv in Astellas' Territory, and we will pay Astellas royalties (at rates up to the mid-teens) on sales of tirasemtiv in the Cytokinetics Territory, in each case subject to various possible adjustments.

The Company concluded that the option to obtain the License on Tirasemtiv is a substantive option, and is therefore not considered a deliverable at the execution of the 2016 agreement. The Company determined that the Tirasemtiv License Agreement is contingent upon the exercise of the Option on Tirasemtiv, and is therefore not effective during the periods presented, since the option has not been exercised as of the latest balance sheet date. In addition, the Company did evaluate the consideration set to be received for the License on Tirasemtiv in relation to the fair value of the License on Tirasemtiv, and determined that it was not being provided at a significant incremental discount.

The Company further determined that the Option Fee of $15 million was deemed to be a prepayment towards the License on Tirasemtiv, and therefore deferred revenue recognition either until the option is exercised, or until the option expires unexercised, at which point the $15 million receipt would be added to the 2016 Amendment consideration, to be allocated to the units of accounting. The Option on Tirasemtiv expires following the receipt of the approval letter from tirasemtiv from the FDA.

Refer to Note 4, "Related Party Research and Development Arrangements" in the Notes to Unaudited Condensed Consolidated Financial Statements, for the accounting treatment, including the allocation of consideration to the units of accounting, and the revenue recognition of License Revenue and Research and Development Revenue, under the 2016 Amendment.

The clinical trials program for tirasemtiv may proceed for several years, and we will not be in a position to generate any revenues or material net cash flows from sales of this drug candidate until the program is successfully completed, regulatory approval is achieved, and the drug is commercialized. Tirasemtiv is at too early a stage of development for us to predict if or when this may occur. Our expenditures are expected to increase as we continue to progress tirasemtiv towards potential registration.

CK-2127107 and Other Skeletal Muscle Activators

Astellas Strategic Alliance. CK-2127107 is being developed jointly by Cytokinetics and Astellas.

On July 27, 2016, the Company and Astellas entered into the 2016 Amendment to expand their collaboration on the research, development and commercialization of skeletal muscle activators under the 2014 Astellas Agreement (as amended, the "Current Astellas Agreement") including an expansion of the collaboration with Astellas to include the development of CK-2127107 ("CK-107"), a next-generation fast skeletal troponin activator, for the potential treatment of ALS, as well as the possible development in ALS of other fast skeletal regulatory activators licensed to Astellas under the 2014 Astellas Agreement. The 2016 Amendment also extends the existing joint research program focused on the discovery of additional next-generation skeletal muscle activators through 2017, including sponsored research at Cytokinetics. Finally, under the 2016 Amendment, the Company granted Astellas an option to enter into a pre-negotiated agreement for a global collaboration for the development and commercialization of tirasemtiv ("Option on Tirasemtiv"), as discussed above.

The 2016 Amendment was subject to clearance under the Hart-Scott-Rodino Antitrust Improvements Act and became effective on the date of such clearance, on September 26, 2016 (the "Amendment Effective Date").

Addition of ALS as an Added Indication (CK-107and other fast skeletal activators)

In connection with the execution of the 2016 Amendment, the Company received a non-refundable upfront amendment fee of $35 million. In addition, the Company received the accelerated payment of a $15 million milestone for the initiation of the first Phase 2 clinical trial of CK-107 as the lead compound in ALS that was otherwise provided for in the 2014 Astellas Agreement, as if such milestone has been achieved upon the execution of the 2016 Amendment. The parties will share equally the costs of developing CK-107 in ALS for potential registration and marketing authorization in the U.S. and Europe, provided that (i) Astellas has agreed to solely fund Phase 2 development costs of CK-107 in ALS subject to a right to recoup the Company's share of such costs plus a 100% premium by reducing future milestone and royalty payments to the Company and (ii) the Company may defer (but not eliminate) a portion of its co-funding obligation for development activities after Phase 2 for up to 18 months, subject to certain conditions. The Company has the right to co-fund its share of such Phase 2 development costs on a current basis, in which case there would not be a premium due to Astellas. Cytokinetics will also receive approximately $44.2 million in additional sponsored research and development funding through 2018 which includes Astellas' funding of Cytokinetics' conduct of the Phase 2 clinical development of CK-2127107 in ALS (approximately $39.1 million) as well as the continuing research collaboration (approximately $5.1 million).

Pursuant to the 2016 Amendment, the Company and Astellas will collaborate to develop CK-107 in ALS. Astellas will be primarily responsible for the development of CK-107 in ALS, but the Company will conduct the Phase 2 clinical trial of CK-107 in ALS and will share in the operational responsibility for later clinical trials. Subject to specified guiding principles, decision making will be by consensus, subject to escalation and, if necessary, Astellas' final decision making authority on the development (including regulatory affairs), manufacturing, medical affairs and commercialization of CK-107 and other fast skeletal regulatory activators in ALS.

The Company determined that the deliverables under the Amendment included (1) the ALS License, (2) ALS Development Services through 2018, and (3) Research Services through 2017. Deliverables that do not provide standalone value have been combined with other deliverables to form a unit of accounting that collectively has standalone value, with revenue being recognized on the combined unit of accounting, rather than the individual deliverables. There are no rights of return provisions for the delivered items in the Astellas agreements.

The Company considered the 2016 Amendment to be a modification of the 2014 Astellas Agreement. The remaining deliverables under the 2014 Astellas Agreement are: (1) the SMA license; (2) Research Services in connection with the Research Plan (through 2016); and (3) SMA Development Services in connection with the Development Plan. The Company evaluated the components and consideration of the 2016 Amendment against other Phase 2 collaboration out license arrangements, and determined that the new 2016 deliverables had standalone value and are delivered at fair value. Therefore no reallocation of consideration to the 2014 deliverables was required.

The Company concluded that there are two units of accounting; the ALS License and the Research and Development services. The Company also determined that the ALS License has standalone value since (1) Astellas received a worldwide license for ALS, to perform further research in the field of ALS, to develop and use CK-107 to make, have make, sell or otherwise commercialize CK-107 in ALS; (2) Astellas has the right to sublicense the rights to CK-107 in ALS to a third party; and (3) Astellas has the technical capabilities to advance further development on CK-107 in ALS, without the continued involvement of the Company.

Refer to Note 4, "Related Party Research and Development Arrangements" in the Notes to Unaudited Condensed Consolidated Financial Statements, for the accounting treatment, including the allocation of consideration to the units of accounting, and the revenue recognition of License Revenue and Research and Development Revenue, under the 2016 Amendment.

During the three and nine months ended September 30, 2016, the Company recorded $50.0 million in license revenue under the 2016 Amendment.

During the three and nine months ended September 30, 2016, the Company recorded no research and development revenue from Astellas, under the 2016 Amendment.

2014 Astellas Agreement

In December 2014, we entered into the 2014 Astellas Agreement. This agreement superseded the License and Collaboration Agreement between Cytokinetics and Astellas of June 2013 (the "Original Astellas Agreement"). The 2014 Astellas Agreement expanded the objective of the collaboration of advancing novel therapies for diseases and medical conditions associated with muscle weakness to include SMA and potentially other neuromuscular indications for CK-2127107 and other fast skeletal troponin activators, in addition to the non-neuromuscular indications provided for in the Original Astellas Agreement.

Under the 2014 Astellas Agreement, we expanded the exclusive license previously granted Astellas under the Original Astellas Agreement to co-develop and commercialize CK-2127107 for potential application in non-neuromuscular indications worldwide to include certain neuromuscular indications as well. Concurrent with the expanded collaboration, the companies agreed to advance CK-2127107 into Phase 2 clinical development. Cytokinetics started a Phase 2 clinical trial of CK-2127107 in patients with SMA in December 2015. The development program may include other neuromuscular indications as the companies may agree. Cytokinetics and Astellas will jointly develop and may jointly commercialize CK-2127107 and other fast skeletal troponin activators in neuromuscular indications. Astellas will be responsible for the costs associated with the development of all collaboration products, including CK-2127107, subject to Cytokinetics' option to co-fund certain development costs as described below.

Under the 2014 Astellas Agreement, the companies extended through 2016 their joint research program to identify next- generation skeletal muscle activators to be nominated as potential drug candidates. This research will be conducted at Astellas' expense.

Refer to Note 4, "Related Party Research and Development Arrangements" in the Notes to Unaudited Condensed Consolidated Financial Statements, for the accounting treatment, including the revenue recognition of research and early development milestone, under the Current Agreement.

During the three and nine months ended September 30, 2016, the Company recorded $2.0 million in milestone revenue for research under this agreement, related to the initiation of IND-enabling studies for a fast skeletal muscle activator. During the three and nine months ended September 30, 2015, the Company recorded no milestone revenue for research under this agreement. The Company is eligible to receive up to $2.0 million in research milestone payments under the collaboration for each future potential drug candidate. Cytokinetics retains an option to conduct early-stage development for certain agreed indications at its initial expense, subject to reimbursement if development continues under the collaboration. Under the 2014 Astellas Agreement, Cytokinetics also retains an option to co-promote collaboration products containing fast skeletal muscle activators for neuromuscular indications in the U.S., Canada and Europe, in addition to its option to co-promote other collaboration products in the U.S. and Canada as provided for in the Original Astellas Agreement. Astellas will reimburse Cytokinetics for certain expenses associated with its co-promotion activities. Under the 2014 Astellas Agreement, Astellas has exclusive rights to co-develop and commercialize CK-2127107 and other fast skeletal troponin activators in SMA and potentially other indications and other novel mechanism skeletal muscle activators in all indications, subject to certain Cytokinetics' development and commercialization rights. Cytokinetics may co-promote and conduct certain commercial activities in the U.S., Canada and Europe under agreed scenarios.

Cytokinetics received an upfront payment of $30.0 million in connection with the execution of the 2014 Astellas Agreement. Also, in conjunction with the execution of the 2014 Astellas Agreement, we also entered into a common stock purchase agreement which provided for the sale of 2,040,816 shares of our common stock to Astellas at a price per share of $4.90 and an aggregate purchase price of $10.0 million, which was received in December 2014. Pursuant to this agreement, Astellas agreed to certain trading and other restrictions with respect to our common stock. Concurrently, Cytokinetics earned a $15.0 million milestone payment relating to Astellas' decision to advance CK-2127107 into Phase 2 clinical development. Cytokinetics is also eligible to potentially receive over $20.0 million in reimbursement of sponsored research and development activities during the three years of the collaboration following through 2017.

During the three months ended September 30, 2016 and 2015, the Company recorded $3.0 million and $4.1 million, respectively, in license revenue based on the proportional performance model under the 2014 Astellas Agreement. During the nine months ended September 30, 2016 and 2015, the Company recorded $9.0 million and $6.5 million, respectively, in license revenue based on the proportional performance model under the 2014 Astellas Agreement. As of September 30, 2016, $11.1 million license revenue remains deferred under the 2014 Astellas Agreement. Pursuant to the 2014 Astellas Agreement, the Company recognized research and development revenue from Astellas for reimbursements of internal costs of certain full-time employee equivalents, supporting collaborative research and development programs, and of other costs related to those programs. The Company is eligible to potentially receive over $20.0 million in reimbursement of sponsored research and development activities during the three years of the collaboration through 2017. During the three months ended September 30, 2016 and 2015, the Company recorded research and development revenue from Astellas of $3.0 million and $3.0 million, respectively, under the 2014 Astellas Agreement. During the nine months ended September 30, 2016 and 2015, the Company recorded research and development revenue from Astellas of $9.5 million and $4.8 million, respectively, under the 2014 Astellas Agreement.

Under the Current Astellas Agreement, based on the achievement of pre-specified criteria, Cytokinetics may receive over $600.0 million in milestone payments relating to the development and commercial launch of collaboration products, including up to $95.0 million relating to CK-2127107 in non-neuromuscular indications, and over $100.0 million in development and commercial launch milestones for CK-2127107 in each of SMA, ALS and other neuromuscular indications. Cytokinetics may also receive up to $200.0 million in payments for achievement of pre-specified sales milestones related to net sales of all collaboration products under the 2014 Astellas Agreement. If Astellas commercializes any collaboration products, Cytokinetics will also receive royalties on sales of such collaboration products, including royalties ranging from the high single digits to the high teens on sales of products containing CK-2127107. Cytokinetics also holds an option to co-fund certain development costs for CK-2127107 and other compounds in exchange for increased milestone payments and royalties; such royalties may increase under certain scenarios to exceed twenty percent. In addition to the foregoing development, commercial and sales milestones, Cytokinetics may also receive payments for the achievement of pre-specified milestones relating to the joint research program.

The clinical trials programs for CK-2127107 may proceed for several years, and we will not be in a position to generate any revenues or material net cash flows from sales of this drug candidate until the program is successfully completed, regulatory approval is achieved, and the drug is commercialized. CK-2127107 is at too early a stage of development for us to predict if or when this may occur. Our expenditures will increase if Astellas terminates development of CK-2127107 or related compounds and we elect to develop them independently, or if we conduct early-stage development for certain agreed indications at our initial expense, subject to reimbursement if development continues under the collaboration.

CK-2127107 Clinical Development

Phase 2 Clinical Development: Cytokinetics, in partnership with Astellas, started a Phase 2 clinical trial of CK-2127107 in patients with SMA in December 2015. The clinical trial is designed to assess effects of CK-2127107 on multiple measures of muscle function in both ambulatory and non-ambulatory patients with SMA, a severe, genetic neuromuscular disease that leads to debilitating muscle wasting and progressive, often fatal, muscle weakness. The primary objective of this double-blind, randomized, placebo-controlled clinical trial is to determine the potential pharmacodynamic effects of a suspension formulation of CK-2127107 following multiple oral doses in patients with Type II, Type III, or Type IV SMA. Secondary objectives are to evaluate the safety, tolerability and pharmacokinetics of CK-2127107. The trial will enroll seventy-two patients in two sequential, ascending dose cohorts (two cohorts of 36 patients each, stratified half ambulatory and half non- ambulatory).

The first cohort of patients is receiving 150 mg of CK-2127107 dosed twice daily for eight weeks; the second cohort of patients will receive 450 mg of CK-2127107 dosed twice daily or a lower dose, depending on the data from the first cohort. At the conclusion of the trial, approximately 24 patients will have been randomized to placebo, approximately 24 patients to 150 mg of CK-2127107 twice daily and approximately 24 patients to 450 mg of CK-2127107 twice daily (or a lower dose, pending the review of data from the first cohort). In each of these three treatment groups of approximately 24 patients each, roughly half will be ambulatory and half will be non-ambulatory. Multiple assessments of skeletal muscle function and fatigability will be performed including respiratory assessments, upper limb strength and functionality for non-ambulatory patients, as well as six-minute walk and timed-up-and-go for ambulatory patients.

During the third quarter of 2016, we continued enrollment of the Phase 2 clinical trial of CK-2127107 in patients with SMA, in collaboration with Astellas. We expect to complete enrollment of cohort 1 of our Phase 2 trial of CK-2127107 in patients with SMA in the fourth quarter of 2016.

In June 2016, Astellas, in collaboration with Cytokinetics, started a Phase 2 clinical trial of CK-2127107 in patients with chronic obstructive pulmonary disease. Astellas is conducting this randomized, double-blind, placebo controlled two period crossover clinical trial designed to assess the effect of CK-2127107 on physical function in patients with COPD. The trial is expected to enroll approximately 40 patients in the United States and is designed to assess the effect of CK-2127107 compared to placebo on exercise tolerance. Additionally, the trial will assess the cardiopulmonary and neuromuscular effect of CK-2127107 relative to placebo and the effect of CK-2127107 on resting spirometry relative to placebo. The safety, tolerability and pharmacokinetics of CK-2127107 also will be assessed. We expect Astellas to complete enrollment in a Phase 2 clinical trial of CK-2127107 in patients with COPD in 2017.

Ongoing Research in Skeletal Muscle Activators.

Our research on the direct activation of skeletal muscle continues in two areas. We are conducting translational research in preclinical models of disease and muscle function with fast skeletal muscle troponin activators to explore the potential clinical applications of this novel mechanism in diseases or conditions associated with skeletal muscle dysfunction. We also intend to conduct preclinical research on other chemically and pharmacologically distinct mechanisms to activate the skeletal sarcomere. We are conducting a joint research program with Astellas directed to the discovery of next-generation skeletal muscle activators. Under the Current Astellas Agreement, the joint research program will continue in 2017 and Astellas will reimburse us for certain research activities. We advanced a next-generation skeletal muscle activator into IND-enabling studies in 2016 and earned a $2.0 million milestone.

Cardiac Muscle Contractility Program

Our lead drug candidate from this program is omecamtiv mecarbil, a novel cardiac muscle myosin activator. We expect omecamtiv mecarbil to be developed as a potential treatment across the continuum of care in heart failure both for use in the hospital setting and for use in the outpatient setting. During the quarter, we participated with Amgen in regulatory meetings with the FDA, EMA and Health Canada intended to inform the design of a Phase 3 development program for omecamtiv mecarbil. We also conducted various clinical, non-clinical, chemistry, manufacturing, and controls (CMC), and planning activities in collaboration with Amgen to support the potential advancement of omecamtiv mecarbil into a Phase 3 development program. In September 2016, we announced Amgen's decision to advance omecamtiv mecarbil into Phase 3 clinical development with a cardiovascular outcomes clinical trial expected to initiate in the fourth quarter of 2016. We are continuing our joint research with Amgen directed to next-generation compounds in our cardiac muscle contractility program in 2016.

Amgen Strategic Alliance. In December 2006, we entered into a collaboration and option agreement with Amgen to discover, develop and commercialize novel small molecule therapeutics, including omecamtiv mecarbil, that activate cardiac muscle contractility for potential applications in the treatment of heart failure (the "Amgen Agreement"). The agreement granted Amgen an option to obtain an exclusive license worldwide, except Japan, to develop and commercialize omecamtiv mecarbil and other drug candidates arising from the collaboration. In May 2009, Amgen exercised its option. As a result, Amgen became responsible for the development and commercialization of omecamtiv mecarbil and related compounds at its expense worldwide (excluding Japan), subject to our development and commercialization participation rights. Amgen will reimburse us for certain research and development activities we perform under the collaboration.

In June 2013, Cytokinetics and Amgen executed an amendment to the Amgen Agreement to include Japan, resulting in a worldwide collaboration (the "Amgen Agreement Amendment"). Under the terms of the Amgen Agreement Amendment, we received a non-refundable upfront license fee of $15.0 million in June 2013. Under the Amgen Agreement Amendment, we conducted a Phase 1 pharmacokinetic study intended to support inclusion of Japan in a potential Phase 3 clinical development program and potential global registration dossier for omecamtiv mecarbil. Amgen reimbursed us for the costs of this study. In addition, we are eligible to receive additional pre-commercialization milestone payments relating to the development of omecamtiv mecarbil in Japan of up to $50.0 million, and royalties on sales of omecamtiv mecarbil in Japan. In conjunction with the Amgen Agreement Amendment, we also entered into a common stock purchase agreement which provided for the sale of 1,404,100 shares of our common stock to Amgen at a price per share of $7.12 and an aggregate purchase price of $10.0 million which was received in June 2013. Pursuant to this agreement, Amgen agreed to certain trading and other restrictions with respect to our common stock.

Under the Amgen Agreement, as amended, the Company is eligible to receive over $350.0 million in development milestone payments which are based on various clinical milestones, including the initiation of certain clinical studies, the submission of a drug candidate to certain regulatory authorities for marketing approval and the receipt of such approvals. These clinical milestones include an approximately $27.0 million milestone relating to the start of GALACTIC-HF. The Company is also eligible to receive up to $300.0 million in commercial milestone payments provided certain sales targets are met. In addition, we are eligible to receive royalties that escalate based on increasing levels of annual net sales of products commercialized under the agreement. The Amgen Agreement also provides for us to receive increased royalties by co-funding Phase 3 development costs of omecamtiv mecarbil and other drug candidates under the collaboration. If we elect to co-fund such costs, we would be entitled to co-promote the co-funded drug in North America and participate in agreed commercialization activities in institutional care settings, at Amgen's expense.

In July 2013, Amgen announced that it had granted an option to commercialize omecamtiv mecarbil in Europe to Servier, with Cytokinetics' consent, pursuant to an Option, License and Collaboration Agreement (the "Servier Agreement"). The option and related commercialization sublicense to Servier, is subject to the terms and conditions of the Amgen Agreement.

In August 2016, we entered into a Letter Agreement with Amgen and Servier (the "Letter Agreement"), which (i) expands the territory of the sublicense to Servier to include specified countries in the Commonwealth of Independent States ("CIS") and (ii) provides that, if Amgen's rights under the Amgen Agreement, as amended, are terminated with respect to the territory of such sublicense, the sublicensed rights previously granted by Amgen to Servier under the Servier Agreement will remain in effect and become a direct license or sublicense of such rights by us to Servier, on substantially the same terms as set forth in the Servier Agreement, including but not limited to Servier's payment of its share of agreed development costs and future milestone and royalty payments to us. The Letter Agreement does not otherwise modify our rights and obligations under the Amgen Agreement, as amended, or create any additional financial obligations of Cytokinetics, unless we otherwise agrees in writing. Amgen remains responsible for the performance of its obligations under the Amgen Agreement, as amended, relating to Europe and the CIS, including the payment of milestones and royalties relating to the development and commercialization of omecamtiv mecarbil in Europe and the CIS.

In September 2016, Amgen and Servier announced Servier's decision to exercise its option to commercialize omecamtiv mecarbil in Europe as well as the CIS, including Russia.

We recorded reimbursement of sponsored research and development activities in connection with our strategic alliance with Amgen of $0.6 million and $0.6 million, respectively in the three months ended September 30, 2016 and 2015, and $1.8 million and $1.9 million, respectively in the nine months ended September, 2016 and 2015. See Note 4, "Related Party Research and Development Arrangements" in the Notes to Unaudited Condensed Consolidated Financial Statements, for a further discussion of our revenue recognition policy under our agreement with Amgen.

Omecamtiv Mecarbil Clinical Development

Omecamtiv mecarbil has been the subject of an extensive Phase 1 and Phase 2 clinical trials program. In November 2015, we announced the results of COSMIC-HF (Chronic Oral Study of Myosin Activation to Increase Contractility in Heart Failure), the last Phase 2 trial of omecamtiv mecarbil completed prior to the decision to advance this drug candidate to Phase 3 clinical development. COSMIC-HF was designed to assess the pharmacokinetics and tolerability of omecamtiv mecarbil dosed orally in patients with heart failure and left ventricular systolic dysfunction and its effects on echocardiographic measures of cardiac function. An intravenous formulation of omecamtiv mecarbil was studied in a Phase 2b clinical trial known as ATOMIC-AHF (Acute Treatment with Omecamtiv Mecarbil to Increase Contractility in Acute Heart Failure), which was designed to evaluate the safety and efficacy of omecamtiv mecarbil in patients with left ventricular systolic dysfunction who are hospitalized with acute heart failure.

Phase 2 Clinical Development Program

COSMIC-HF. COSMIC-HF was a Phase 2, double-blind, randomized, placebo-controlled, multicenter, clinical trial designed to assess the pharmacokinetics and tolerability of omecamtiv mecarbil dosed orally in patients with heart failure and left ventricular systolic dysfunction as well as its effects on echocardiographic measures of cardiac function. COSMIC-HF was conducted by Amgen in collaboration with Cytokinetics. The trial began with two dose escalation cohorts of 40 patients each, randomized 1:1:1:1 to placebo or one of three different modified release oral formulations of omecamtiv mecarbil for seven days. The dose of omecamtiv mecarbil in the first of these two dose escalation cohorts was 25 mg twice daily; in the second, it was 50 mg twice daily. The purpose of the dose escalation cohorts was to select one of the three modified release oral formulations of omecamtiv mecarbil for further evaluation in a larger group of patients treated for a longer period of time.

The expansion phase of COSMIC-HF was designed to evaluate the pharmacokinetics, pharmacodynamics, safety and tolerability of the modified release oral formulation omecamtiv mecarbil selected based on the results of the two dose escalation cohorts in 448 patients with chronic heart failure and left ventricular systolic dysfunction. Patients were randomized 1:1:1 to receive either placebo or treatment with omecamtiv mecarbil 25 mg twice daily or a dose titration group where 25 mg twice daily dosing could be increased to 50 mg twice daily depending on plasma concentrations of omecamtiv mecarbil after two weeks of treatment with the 25 mg dose.

In November 2015, the results from the expansion phase of COSMIC-HF (Chronic Oral Study of Myosin Activation to Increase Contractility in Heart Failure) were presented in a Late-Breaking Clinical Trial session at the American Heart Association Scientific Sessions 2015 in Orlando, Florida. Data from the expansion phase showed that dose titration controlled patient exposure to omecamtiv mecarbil. Approximately 60 percent of patients in the dose titration group escalated dosing to 50 mg twice daily. The study met its primary pharmacokinetics objective.

Following 20 weeks of treatment, statistically significant improvements were observed in pre-specified secondary endpoint measures of cardiac function in the dose titration group, compared to placebo. Systolic ejection time increased by 25.0 msec ($p<0.001$), stroke volume increased by 3.63 mL ($p=0.022$) and heart rate decreased by 2.97 beats per min ($p=0.007$). Left ventricular end-systolic and end-diastolic dimensions decreased by 1.79 mm ($p=0.003$) and 1.29 mm ($p=0.013$), respectively, and were associated with statistically significant reductions in left ventricular end-systolic and end-diastolic volumes. N-terminal pro-brain natriuretic peptide (NT-proBNP) decreased by 970 pg/mL ($p=0.007$). Additionally, in the 25 mg twice daily group, there were statistically significant increases in systolic ejection time and stroke volume and a decrease in NT-proBNP. All changes are from baseline compared to placebo. The pharmacodynamic effects of omecamtiv mecarbil were generally dose dependent and larger in patients that received oral dosing with 50 mg twice daily.

Increases in systolic ejection time (SET) and stroke volume, and decreases in LV end-systolic volume, were similar after both 12 and 20 weeks of treatment with omecamtiv mecarbil; however, LV end-diastolic volume decreased progressively from 12 to 20 weeks, with the decrease after 20 weeks nearly twice that observed after 12 weeks. NT-proBNP (a biomarker that is elevated in heart failure, with higher elevations reflecting more severe heart failure) also fell progressively over time and, of particular note, had declined even further four weeks after treatment discontinuation (-1306 ± 376 pg/mL; p=0.0006). Heart rate also declined significantly after 2, 12 and 20 weeks of treatment ranging from 2-4 beats per minute and returning nearly to baseline four weeks after treatment discontinuation (-1.2±1.2 beats/min: p = 0.29).

Adverse events (AEs), including serious AEs, in patients on omecamtiv mecarbil were comparable to placebo. The incidence of adjudicated deaths (2.7 percent died on placebo, 1.4 percent died on omecamtiv mecarbil), myocardial infarction (1.34 percent on placebo, 0.34 percent on omecamtiv mecarbil) and unstable angina (0 percent on placebo, 0.34 percent on omecamtiv mecarbil) was similar. Other cardiac AEs were generally balanced between placebo and active treatment groups. In the omecamtiv mecarbil groups, compared to placebo, cardiac troponin increased by 0.001 ng/mL and 0.006 ng/mL (median change from baseline at week 20) in the 25 mg twice daily group and dose titration group, respectively. Events of increased troponin (n=278 across all treatment groups) were independently adjudicated and none were determined to be myocardial ischemia or infarction.

On April 4, 2016, we announced the start of a Phase 2 clinical trial of omecamtiv mecarbil in Japanese subjects with heart failure and reduced ejection fraction.

Also in March 2016, the manuscript, "Acute Treatment with Omecamtiv Mecarbil to Increase Contractility in Acute Heart Failure, The ATOMIC-AHF Study," was published in the Journal of the American College of Cardiology. Results from this trial were first presented at the European Society of Cardiology Meeting in 2013.

During 2016, we participated with Amgen in regulatory meetings with the FDA, EMA and Health Canada intended to inform design of a potential Phase 3 development program for omecamtiv mecarbil. We also conducted various clinical; non-clinical; chemistry, manufacturing, and controls (CMC), and planning activities in collaboration with Amgen to support the potential advancement of omecamtiv mecarbil into a Phase 3 development program. In September 2016, we announced Amgen's decision to advance omecamtiv mecarbil into Phase 3 clinical development with a cardiovascular outcomes clinical trial expected to initiate in the fourth quarter of 2016. As part of the Phase 3 clinical trials program, Cytokinetics and Amgen are also planning a potential exercise performance/cardiac function clinical trial to be conducted by Cytokinetics. Amgen will be responsible for reimbursing us for the out-of-pocket development costs associated with this clinical trial.

In September 2016, additional results from COSMIC-HF were presented in a Rapid Fire Abstract Session at the Hart Failure Society of America Scientific Meeting in Orlando, Florida. The results showed that omecamtiv mecarbil may improve symptoms in patients with moderate to severe heart failure symptoms versus placebo after 20 weeks of double-blind treatment, as measured by the Kansas City Cardiomyopathy Questionnaire Total Symptom Score (TSS), one of the sub-domains of a self-administered questionnaire that measures quality-of-life in patients with heart failure. At week 20, the TSS was increased (with increases in the score reflecting improvement) in a dose-related fashion, with a 4.9 point improvement in the PK-guided dose titration group ($p=0.03$). This improvement was greater among patients who were moderately to severely symptomatic at baseline, with the largest magnitude in the PK-guided dose titration treatment group (6.5, $p=0.09$). Patients who were asymptomatic or mildly symptomatic had modest improvements in the TSS.

Ongoing Research in Cardiac Muscle Contractility

We are continuing our joint research program with Amgen directed to next-generation compounds in our cardiac muscle contractility program in 2016. Under the Amgen Agreement, Amgen reimburses us for certain research activities we perform.

The clinical trials program for omecamtiv mecarbil may proceed for several years, and we will not be in a position to generate any revenues or material net cash flows from sales of this drug candidate until the program is successfully completed, regulatory approval is achieved, and the drug is commercialized. Omecamtiv mecarbil is at too early a stage of development for us to predict if or when this may occur. We funded all research and development costs associated with this program prior to Amgen's option exercise in May 2009. We anticipate that our expenditures relating to the research and development of compounds in our cardiac muscle contractility program will increase if we participate in the future advancement of omecamtiv mecarbil through clinical development. Our expenditures will also increase if Amgen terminates development of omecamtiv mecarbil or related compounds and we elect to develop them independently, or if we elect to co-fund later-stage development of omecamtiv mecarbil or other compounds in our cardiac muscle contractility program under our collaboration and option agreement with Amgen.

Beyond Muscle Contractility

We have developed preclinical expertise in the mechanics of skeletal, cardiac and smooth muscle that extends from proteins to tissues to intact animal models. Our translational research in muscle contractility has enabled us to better understand the potential impact of small molecule compounds that increase skeletal or cardiac muscle contractility and to apply those findings to the further evaluation of our drug candidates in clinical populations. In addition to contractility, the other major functions of muscle include metabolism, growth and energetics, with each of these functions playing a role in certain diseases that could benefit from novel mechanism treatments. Accordingly, our knowledge of muscle contractility may serve as an entry point to the discovery of novel treatments for disorders involving muscle functions other than muscle contractility. We are leveraging our current understandings of muscle biology to investigate new ways of modulating these other aspects of muscle function for other potential therapeutic applications.

Development Risks

The successful development of any of our drug candidates is highly uncertain. We cannot estimate with certainty or know the exact nature, timing and costs of the activities necessary to complete the development of any of our drug candidates or the date of completion of these development activities due to numerous risks and uncertainties, including, but not limited to:

- the results of clinical trials of our drug candidates conducted by us or our partners may not support the further clinical development of those drug candidates;

- further clinical development of tirasemtiv for the potential treatment of ALS will require significant additional funding and we may be unable to obtain such additional funding on acceptable terms, if at all;
- the FDA and/or other regulatory authorities may not accept effects on respiratory function, including SVC, as appropriate clinical trial endpoints to support the registration of tirasemtiv for the treatment of ALS;
- the FDA and/or other regulatory authorities may not accept the data from the clinical trials of tirasemtiv as sufficient to determine the safest and most effective dose of tirasemtiv for the treatment of ALS;
- decisions made by Amgen with respect to the development of omecamtiv mecarbil and by Astellas with respect to the development of CK-2127107;
- the uncertainty of the timing of the initiation and completion of patient enrollment and treatment in our or our partners' clinical trials;
- the possibility of delays in the collection of clinical trial data and the uncertainty of the timing of the analyses of our clinical trial data after these trials have been initiated and completed;
- our potential inability to obtain additional funding and resources for our development activities on acceptable terms, if at all, including, but not limited to, our potential inability to obtain or retain partners to assist in the design, management, conduct and funding of clinical trials;
- failure by our clinical trial sites, clinical research organizations, clinical manufacturing organizations and other third parties supporting our or our partners' clinical trials to fulfill their obligations or otherwise perform as expected;
- delays or additional costs in manufacturing of our drug candidates for clinical trial use, including developing appropriate formulations of our drug candidates;
- the uncertainty of clinical trial results, including variability in patient response;
- the uncertainty of obtaining FDA or other foreign regulatory agency approval required for the clinical investigation of our drug candidates;
- the uncertainty related to the development of commercial scale manufacturing processes and qualification of a commercial scale manufacturing facility;
- the possibility that results from non-clinical studies may adversely impact the timing or further development of our drug candidates; and
- possible delays in the characterization, formulation, manufacture, packaging, labeling and distribution of drug candidates and other compounds.

If we fail to complete the development of any of our drug candidates in a timely manner, it could have a material adverse effect on our operations, financial position and liquidity. In addition, any failure by us or our partners to obtain, or any delay in obtaining, regulatory approvals for our drug candidates could have a material adverse effect on our results of operations. A further discussion of the risks and uncertainties associated with completing our programs as planned, or at all, and certain consequences of failing to do so are discussed further in the risk factors entitled "We will need substantial additional capital in the future to sufficiently fund our operations," "We have never generated, and may never generate, revenues from commercial sales of our drugs and we may not have drugs to market for at least several years, if ever," "Clinical trials may fail to demonstrate the desired safety and efficacy of our drug candidates, which could prevent or significantly delay completion of clinical development and regulatory approval" and "Clinical trials are expensive, time-consuming and subject to delay," and other risk factors.

Results of Operations

Revenues

Total revenues for the three and nine months ended September 30, 2016 and 2015, respectively, were as follows (in thousands):

	Three Months Ended			Nine Months Ended		
	September 30, 2016	September 30, 2015	Increase (Decrease)	September 30, 2016	September 30, 2015	Increase (Decrease)
Research and development revenues from related parties	$ 5,573	$ 3,786	$ 1,787	$ 13,383	$ 10,087	$ 3,296
Research and development, grant and other revenues	441	27	414	930	27	903
License revenues from related parties	53,033	4,132	48,901	58,956	8,787	50,169
Total revenues	$ 59,047	$ 7,945	$ 51,102	$ 73,269	$ 18,901	$ 54,368

Research and development revenues from related parties refers to research and development revenues from our strategic alliances with Astellas and Amgen. Research and development revenue for the third quarter of 2016 and 2015 included research and development revenues from Astellas of $5.0 million and $3.2 million, respectively, and consisted of reimbursements of internal costs of certain full-time employee equivalents, reimbursements of research and development expenses, and research and development milestone fees; and research and development revenues from Amgen of $0.6 million and $0.6 million, respectively, and consisted of reimbursements of internal costs of certain full-time employee equivalents. Research and development revenue for the first nine months of 2016 and 2015 included research and development revenues from Astellas of $11.5 million and $8.2 million, respectively, and consisted of reimbursements of internal costs of certain full-time employee equivalents, and other research and development expenses; and research and development revenues from Amgen of $1.8 million and $1.9 million, respectively, and consisted of reimbursements of internal costs of certain full-time employee equivalents. The increase in research and development revenues from related parties for the three and nine months ended September 30, 2016, compared to the same periods in 2015, was primarily due to the timing of research and development activities under the Astellas collaboration agreement.

Research and development, grant and other revenues in the third quarter and in the first nine months of 2016, consisted of $0.3 million and $0.8 million, respectively, of research and development revenues from our collaboration with The ALS Association ("ALSA"). In July 2015, we were awarded a $1.5 million grant from ALSA (the "ALSA Grant") to support the conduct of VITALITY-ALS as well as the collection of clinical data and plasma samples from patients in VITALITY-ALS in order to help advance the discovery of potentially useful biomarkers in ALS.

License revenues from related parties refers to license revenues from our strategic alliance with Astellas. License revenues from related parties for the third quarter of 2016 and 2015 were $53.0 million and $4.1 million, respectively, and primarily consisted of the recognition of the $50.0 million upfront license fee received from Astellas under the 2016 Amendment, using the proportional performance model. License revenues from related parties for the first nine months of 2016 and 2015 were $59.0 million and $8.8 million, respectively, and consisted of the recognition of the $50.0 million upfront license fee received from Astellas under the 2016 Amendment, using the proportional performance model. The increase in license revenue from related parties for the third quarter of 2016, compared to the same period in 2015, and the increase in license revenues from related parties for the three and nine months ended September 30, 2016, compared to the same periods in 2015, was primarily due to the license revenue associated with the expansion of the Astellas collaboration agreement, which was effective in September 2016. Refer to Note 4, "Related Party Research and Development Arrangements" in the Notes to Unaudited Condensed Consolidated Financial Statements, for the accounting treatment, including the allocation of consideration to the units of accounting, and the revenue recognition of License Revenue and Research and Development Revenue, under the 2016 Amendment.

Research and Development Expenses

Research and development expenses for the three and nine months ended September 30, 2016 and 2015, respectively, were as follows (in thousands):

	Three Months Ended			Nine Months Ended		
	September 30, 2016	September 30, 2015	Increase (Decrease)	September 30, 2016	September 30, 2015	Increase (Decrease)
Research and development expenses	$ 19,340	$ 11,557	$ 7,783	$ 42,596	$ 33,149	$ 9,447

The increase in research and development expenses for the three months ended September 30, 2016, compared to the same period in 2015, was primarily due to an increase of $6.6 million in outsourced preclinical and clinical costs mainly associated with the ongoing VITALITY-ALS and CK-2127107 trials, and an increase of $1.1 million in personnel related expenses due to increased headcount costs and increased non-cash stock compensation expense.

The increase in research and development expenses for the first nine months of 2016, compared to the same period in 2015, was primarily due to an increase of $9.5 million in outsourced clinical costs, an increase of $3.5 million in personnel related expenses due to increased headcount and increased non-cash stock compensation expense, partially offset by a decrease of $3.6 million in outsourced preclinical costs mainly associated with clinical manufacturing activities. The increase in outsourced clinical costs comprised of an increase of $14.0 million in outsourced clinical costs mainly associated with the ongoing VITALITY-ALS and CK-2127107 trials, offset by a $4.5 million litigation settlement in June 2016 from a contract research organization for our BENEFIT-ALS clinical trial which was concluded in 2014.

The following presents our research and development expenses by program for the three and nine months ended September 30, 2016 and 2015, respectively (in thousands):

	Three Months Ended			Nine Months Ended		
	September 30, 2016	September 30, 2015	Increase (Decrease)	September 30, 2016	September 30, 2015	Increase (Decrease)
Skeletal muscle contractility	$ 17,007	$ 8,956	$ 8,051	$ 34,623	$ 25,326	$ 9,297
Cardiac muscle contractility	1,844	1,498	346	5,947	4,385	1,562
All other research programs	489	1,103	(614)	2,026	3,438	(1,412)
Total research and development expenses	$ 19,340	$ 11,557	$ 7,783	$ 42,596	$ 33,149	$ 9,447

From a program perspective, the increase in research and development spending for the third quarter of 2016, compared to the same period in 2015, was primarily due to increased spending of $8.1 million for our skeletal muscle contractility program, which included the clinical program for tirasemtiv for the treatment of ALS, and the clinical programs for CK-2127107 under our collaboration with Astellas, and increased spending of $0.3 million for our cardiac muscle contractility program, partially offset by decreased spending of $0.6 million for our other research programs. The $8.1 million increase in our skeletal muscle contractility program spending mainly comprised of an increase of $6.8 million in research and development spending associated with tirasemtiv for the treatment of ALS and an increase of $1.2 million in research and development spending associated with CK-2127107, respectively.

From a program perspective, the increase in research and development spending for the first nine months of 2016, compared to the same period in 2015, was primarily due to increased spending of $9.3 million for our skeletal muscle contractility program, which included the clinical program for tirasemtiv for the treatment of ALS, and the clinical programs for CK-2127107 under our collaboration with Astellas, and increased spending of $1.6 million for our cardiac muscle contractility program, partially offset by decreased spending of $1.4 million for our other research programs. The $9.3 million increase in our skeletal muscle contractility program spending mainly comprised of an increase of $11.8 million in research and development spending associated with the tirasemtiv for the treatment of ALS, and an increase of $2.3 million in research and development spending associated with CK-2127107, respectively, partially offset by a $4.5 million litigation settlement in June 2016 from a contract research organization for our BENEFIT-ALS clinical trial which was concluded in 2014.

Clinical development timelines, likelihood of success and total completion costs vary significantly for each drug candidate and are difficult to estimate. We anticipate that we will determine on an ongoing basis which research and development programs to pursue and how much funding to direct to each program, taking into account the scientific and clinical success of each drug candidate. The lengthy process of seeking regulatory approvals and subsequent compliance with applicable regulations requires the expenditure of substantial resources. Any failure by us to obtain and maintain, or any delay in obtaining, regulatory approvals could cause our research and development expenditures to increase and, in turn, could have a material adverse effect on our results of operations.

We expect our research and development expenditures to increase significantly in 2016 compared to 2015. We expect to continue the Phase 3 clinical development of our drug candidate tirasemtiv for the potential treatment of ALS. Under our strategic alliance with Astellas, we expect to continue development of our drug candidate CK-2127107 for the potential treatment of SMA, COPD, ALS and potentially other diseases and medical conditions associated with muscle weakness or wasting. Under our strategic alliance with Amgen, we expect to continue development of our drug candidate omecamtiv mecarbil for the potential treatment of heart failure.

General and Administrative Expenses

General and administrative expenses for the three and nine months ended September 30, 2016 and 2015, respectively, were as follows (in thousands):

	Three Months Ended			Nine Months Ended		
	September 30, 2016	September 30, 2015	Increase (Decrease)	September 30, 2016	September 30, 2015	Increase (Decrease)
General and Administrative expenses	$ 7,217	$ 5,276	$ 1,941	$ 21,149	$ 14,138	$ 7,011

The increase in general and administrative expenses in the third quarter of 2016, compared to the same period in 2015, was primarily due to an increase of $1.3 million in personnel related expenses due to increased headcount and increased non-cash stock compensation expense, an increase of $0.4 million in outsourced costs mainly related to commercial development and information technology, and an increase of $0.2 million in corporate and patent legal fees.

The increase in general and administrative expenses in the first nine months of 2016, compared to the same period in 2015, was primarily due to increased spending of $3.3 million in personnel related expenses due to increased headcount and increased non-cash stock compensation expense, an increase of $1.9 million in outsourced costs related to commercial development, grants and sponsorships, and accounting and finance, and an increase of $1.6 million in corporate and patent legal fees.

We anticipate that general and administrative expenses in 2016 will increase significantly compared to 2015, mainly due to increased headcount.

Interest Expense

Interest expense increased in the third quarter of 2016 and for the first nine months of 2016, compared to the same periods in 2015, due to interest expense related to the long-term debt obligations which commenced in fourth quarter 2015.

Critical Accounting Policies

The accounting policies that we consider to be our most critical (i.e., those that are most important to the portrayal of our financial condition and results of operations and that require our most difficult, subjective or complex judgments), the effects of those accounting policies applied and the judgments made in their application are summarized in "*Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates"* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2015. There has been no material change to our critical accounting policies since then.

Recent Accounting Pronouncements

See Note 1, "Recent Accounting Pronouncements" in the Notes to Unaudited Condensed Consolidated Financial Statements for a discussion of recently adopted accounting pronouncements and accounting pronouncements not yet adopted, and their expected impact on our financial position and results of operations.

Liquidity and Capital Resources

From August 5, 1997, our date of inception, through September 30, 2016, we funded our operations through the sale of equity securities, non-equity payments from collaborators, long term debt, capital equipment financings, grants and interest income. Due to our substantial research and development expenditures, we have generated significant operating losses since our inception. Our expenditures are primarily related to research and development activities. As of September 30, 2016, we had available cash, cash equivalents and investments of $86.3 million.

Original Astellas Agreement

In June 2013, we entered into the Original Astellas Agreement (see Note 4, "Related Party Research and Development Arrangements" in the Notes to Unaudited Condensed Consolidated Financial Statements). In July 2013, we received an upfront non-refundable license payment of $16.0 million in connection with the execution of the Original Astellas Agreement. Pursuant to that agreement we were eligible to potentially receive over $24.0 million in reimbursement of sponsored research and development activities during the initial two years of the collaboration. In addition, the agreement also provided for payments for the achievement of pre-specified milestones relating to the joint research and development program. During the three months and nine months ended September 30, 2016 and 2015, the Company recognized no revenues for milestones achieved under the Original Astellas Agreement. The $15.0 million milestone payment which was paid in January 2015 was recognized in 2014.

2014 Astellas Agreement

In December 2014, we entered into the 2014 Astellas Agreement, which superseded the Original Astellas Agreement (see Note 4, "Related Party Research and Development Arrangements" in the Notes to Unaudited Condensed Consolidated Financial Statements). Under the terms of the 2014 Astellas Agreement, we received a non-refundable upfront license fee of $30.0 million in January 2015. In conjunction with the 2014 Astellas Agreement, we also entered into a common stock purchase agreement pursuant to which we sold 2,040,816 shares common stock to Astellas at a price per share of $4.90. The aggregate purchase price of $10.0 million was received in December 2014. We determined the fair value of the stock issued to Astellas to be $9.1 million. The excess of cash received over fair value of $0.9 million was deferred and will be recognized as revenue as services are performed over approximately 24 months.

We are eligible to potentially receive over $20.0 million in reimbursement of sponsored research and development activities during the three years of the collaboration through 2017. In addition, we may also receive payments for the achievement of pre-specified milestones relating to the 2014 Astellas Agreement.

Based on the achievement of pre-specified criteria, Cytokinetics may receive over $600.0 million in milestone payments relating to the development and commercial launch of collaboration products, including up to $95.0 million relating to CK-2127107 in non-neuromuscular indications, and over $100.0 million in development and commercial launch milestones for CK-2127107 in each of SMA, ALS and other neuromuscular indications. Cytokinetics may also receive up to $200.0 million in payments for achievement of pre-specified sales milestones related to net sales of all collaboration products under the 2014 Astellas Agreement. If Astellas commercializes any collaboration products, Cytokinetics will also receive royalties on sales of such collaboration products, including royalties ranging from the high single digits to the high teens on sales of products containing CK-2127107. Cytokinetics also holds an option to co-fund certain development costs for CK-2127107 and other compounds in exchange for increased milestone payments and royalties; such royalties may increase under certain scenarios to exceed twenty percent. In addition to the foregoing development, commercial launch and sales milestones, Cytokinetics may also receive payments for the achievement of pre-specified milestones relating to the joint research program.

2016 Astellas Amendment (Inclusion of ALS as an Added Indication and Option on Tirasemtiv)

In July 2016, Cytokinetics entered into the 2016 Amendment to the 2014 Astellas Agreement. Under the 2016 Amendment, we granted Astellas an option to enter into a pre-negotiated agreement for a global collaboration for the development and commercialization of tirasemtiv. If Astellas exercises the option, Astellas will receive exclusive worldwide commercialization rights for Astellas outside Cytokinetics' commercialization territory in North America, Europe and other select countries. In addition, the 2016 Amendment expands our collaboration with Astellas to include the development of CK-2127107 for the potential treatment of ALS, as well as other fast skeletal regulatory activators licensed to Astellas under the 2014 Agreement. Finally, the 2016 Amendment extends the existing joint research program focused on the discovery of additional next-generation skeletal muscle activators through 2017, including sponsored research at Cytokinetics.

The 2016 Amendment was subject to clearance under the Hart-Scott-Rodino Antitrust Improvements Act and beacame effective on September 26, 2016, the date of such clearance.

In connection with the execution of the 2016 Amendment, we received a $15.0 million non-refundable option fee for the grant of the option on tirasemtiv. Prior to Astellas' exercise of the option, we will continue the development of tirasemtiv, including the VITALITY-ALS trial, at our own expense to support regulatory approval in the U.S., EU and certain other jurisdictions and will retain the final decision making authority on the development of tirasemtiv. If Astellas exercises the option, we will grant Astellas an exclusive license to develop and commercialize tirasemtiv outside Cytokinetics' own commercialization territory of North America, Europe and other select countries. Each party would be primarily responsible for the further development of tirasemtiv in its territory and have the exclusive right to commercialize tirasemtiv in its territory.

Also in connection with the execution of the 2016 Amendment, we received a non-refundable upfront amendment fee of $35.0 million. We also received the accelerated payment of a $15.0 million milestone payment for the initiation of the first Phase 2 clinical trial of CK-2127107 as the lead compound in ALS that was otherwise provide for in the 2014 Astellas Agreement, as if such milestone has been achieved upon the execution of the 2016 Amendment. The parties will share equally the costs of developing CK-2127107 in ALS for potential registration and marketing authorization in the U.S. and Europe, provided that (i) Astellas has agreed to solely fund Phase 2 development costs of CK-2127107 in ALS, subject to a right to recoup Cytokinetics' share of such costs plus a 100% premium by reducing future milestone and royalty payments to Cytokinetics, and (ii) Cytokinetics may defer (but not eliminate) a portion of its co-funding obligation for development activities after Phase 2 for up to 18 months, subject to certain conditions. Cytokinetics has the right to co-fund its share of such Phase 2 development costs on a current basis, in which case there would not be a premium due to Astellas. We are also eligible to potentially receive approximately $44.2 million in additional sponsored research and development funding through 2018 which includes Astellas' funding of Cytokinetics' conduct of the Phase 2 clinical development of CK-2127107 in ALS (approximately $39.1 million) as well as the continuing research collaboration (approximately $5.1 million).

If Astellas exercises its option for a global collaboration for the development and commercialization of tirasemtiv, Cytokinetics will receive an option exercise payment ranging from $25.0 million (if exercise occurs following receipt of data from the VITALITY-ALS trial) to $80.0 million (if exercise occurs following receipt of FDA approval). In addition, we are eligible to receive a potential milestone payment from Astellas associated with Cytokinetics' initiation of the VIGOR-ALS open-label extension trial for tirasemtiv. Such milestone would be $30.0 million; provided, however, that the amount will be reduced to $15.0 million if (i) Astellas elects to pay such milestone payment at the time the trial commences (if prior to Astellas' exercise of its option on tirasemtiv) or (ii) Astellas has exercised said option as of the time the trial commences. Cytokinetics will be responsible for the development costs of tirasemtiv during the option period, but if Astellas' exercises the option after the defined review period following receipt of data from VITALITY-ALS, Astellas will at the time of option exercise reimburse Cytokinetics for a share of any additional costs incurred after such review period.

If Astellas exercises the option for tirasemtiv, the parties will share the future development costs of tirasemtiv in North America, Europe and certain other countries (with Cytokinetics bearing 75% of such shared costs and Astellas bearing 25% of such costs), and Astellas will be solely responsible for the development costs of tirasemtiv specific to its commercialization territory. Contingent upon the successful development of tirasemtiv, we may receive milestone payments up to $100.0 million for the initial indication and up to $50.0 million for each subsequent indication. If tirasemtiv is commercialized, Astellas will pay us royalties (at rates ranging from the mid-teens to twenty percent) on sales of tirasemtiv in Astellas' territory, and we will pay Astellas royalties (at rates up to the mid-teens) on sales of tirasemtiv in our commercialization territory, in each case subject to various possible adjustments.

Amgen Agreement Amendment

In June 2013, we entered into the Amgen Agreement Amendment, which expanded our strategic alliance to include Japan (see Note 4, "Related Party Research and Development Arrangements" in the Notes to Unaudited Condensed Consolidated Financial Statements). Under the terms of the Amgen Agreement Amendment, we received a non-refundable upfront license fee of $15 million in June 2013. In conjunction with the Amgen Agreement Amendment, we also entered into a common stock purchase agreement pursuant to which we sold 1,404,100 shares common stock to Amgen at a price per share of $7.12. The aggregate purchase price of $10.0 million was received in June 2013. We determined the fair value of the stock issued to Amgen to be $7.5 million. The excess of cash received over fair value of $2.5 million was deferred and was recognized as revenue as services were performed over approximately 12 months.

Under the Amgen Agreement as amended, we are eligible for potential pre-commercialization and commercialization milestone payments of over $650.0 million in the aggregate on omecamtiv mecarbil and other potential products arising from research under the collaboration, and royalties that escalate based on increasing levels of annual net sales of products commercialized under the agreement.

Amgen and the Company agreed to further extend the term of the research program in 2016. Under the amended Amgen Agreement, we are entitled to receive reimbursements of internal costs for certain full-time employee equivalents during 2016, as well as potential additional milestone payments related to the research activities.

Cantor Fitzgerald

On September 4, 2015, we entered into a $40.0 million Controlled Equity Offering Sales Agreement ("CE Offering") with Cantor Fitzgerald & Co., pursuant to which we issue and sold, through September 30, 2016, 808,193 shares for total net proceeds of approximately $8.7 million. As of September 30, 2016, $31.3 million remains available to us under the September 2015 Registration Statement.

Warrants issued in June 2012 Public Offerings

On June 20, 2012, we entered into underwriting agreements for two separate, concurrent offerings of our securities (the "June 2012 Public Offerings"). The warrants issued in the June 2012 Public Offerings became exercisable upon issuance and will remain exercisable until June 25, 2017. In August 2016, warrants to purchase 104,533 shares of our common stock at an exercise price of $5.28 per share were exercised in accordance with the June 2012 Public Offerings underwriting agreements. In September 2016, we issued 690,580 shares of common stock related to cashless exercise of warrants. As of September 30, 2016, warrants to purchase 4,168,914 shares of our common stock were outstanding and exercisable.

October 2015 Loan Agreement

On October 19, 2015 and February 10, 2016, we entered into a loan and security agreement (the "Loan Agreement") with Oxford Finance LLC ("Oxford,") as the collateral agent and a lender, and Silicon Valley Bank ("SVB,") as a lender (Oxford and SVB collectively the "Lenders") to fund our working capital and other general corporate needs, for Term A and Term B, respectively. We can, in our sole discretion, draw down an additional $10.0 million under the Loan Agreement from the Lenders, at any time prior to March 31, 2017, subject to Cytokinetics' satisfaction of specified conditions precedent related to the earlier of (i) the occurrence of an equity even as described in the Loan Agreement, or (ii) specified results from the Company's VITALITY-ALS Phase 3 trial of tirasemtiv, each as specified in the Loan Agreement. As of September 30, 2016 we received $29.8 million from these loan and security agreements for Term A and Term B, net of issuance cost. See Note 8, "Long-Term Debt" of the Notes to Consolidated Financial Statements for further details.

Sources and Uses of Cash

Our cash, cash equivalents and investments totaled $86.3 million at September 30, 2016, compared to $111.6 million at December 31, 2015. The decrease of $25.3 million was primarily due to cash used in operating activities of $40.8 million, partially offset by net proceeds of $15.0 million received from long-term debt.

Net cash used in operating activities was $40.8 million for the nine months ended September 30, 2016 and was largely due to the ongoing research and development activities, and general and administrative spend to support those activities. The net income of $7.8 million for the nine months ended September 30, 2016 included non-cash stock based compensation of $5.3 million. At September 30, 2016, deferred revenue of $26.1 million related to the deferral of revenue for Astellas based on the proportional performance model; and related party accounts receivable included $65 million that was received from Astellas in October 2016, related to the 2016 Astellas Amendment.

Net cash used in investing activities was $10.1 million for the first nine months of 2016 was primarily due to purchases of investments, exceeding proceeds from the maturity of investments, by $9.4 million.

Net cash provided by financing activities was $16.2 million for the first nine months of 2016 and primarily consisted of net proceeds received of $15.0 million from long-term debt.

Shelf Registration Statements.

In November 2013 we filed a shelf registration statement with the SEC, which was declared effective in December 2013 (the "December 2013 Shelf"). The December 2013 Shelf allowed us to issue common stock and preferred stock, and/or warrants to purchase any of such securities with a total value of up to $150.0 million. As of September 30, 2016, $109.7 million remains available to us under the December 2013 Shelf. The specific terms of offerings, if any, under the December 2013 Shelf will be established at the time of such offerings.

As of September 30, 2016, our contractual obligations are as follows (in thousands):

	Payments Due by Period				
	Remainder of 2016	2017-2018	2019-2020	Beyond	Total
Long-term debt (1)	$ —	$ 12,500	$ 17,500	$ —	$30,000
Interest obligation on long-term debt (2)	575	4,011	2,420	—	7,006
Operating lease obligations (3)	949	5,563	—	—	6,512
Total obligations	$ 1,524	$ 22,074	$ 19,920	$ —	$43,518

(1) For further discussion regarding long-term debt, see Note 8, "Long-Term Debt" of the Notes to Consolidated Financial Statements.
(2) Interest obligation on long-term debt has been calculated based on the interest rate applicable as of September 30, 2016.
(3) Our long-term commitment under operating lease relates to payments under our facility lease in South San Francisco, California, which expires in 2018.

In future periods, we expect to incur substantial costs as we continue to expand our research programs and related research and development activities. We plan to continue development of our fast skeletal muscle troponin activator tirasemtiv for the potential treatment of ALS. We plan to continue development of our fast skeletal muscle troponin activator CK-2127107 for the potential treatment of SMA, COPD, ALS and potentially other diseases and conditions related to skeletal muscle weakness or wasting and research of potential next-generation compounds as part of our strategic alliance with Astellas. We plan to continue to support the development of our cardiac muscle myosin activator omecamtiv mecarbil for the potential treatment of heart failure and the research of potential next-generation compounds as part of our strategic alliance with Amgen. We expect to incur significant research and development expenses as we advance the research and development of compounds from our other muscle biology programs through research to candidate selection.

Our future capital uses and requirements depend on numerous factors. These factors include, but are not limited to, the following:

- the initiation, progress, timing, scope and completion of preclinical research, non-clinical development, chemistry, manufacturing, and controls (CMC), and clinical trials for our drug candidates and other compounds;
- the time and costs involved in obtaining regulatory approvals;
- delays that may be caused by requirements of regulatory agencies;
- Amgen's decisions with regard to funding of development and commercialization of omecamtiv mecarbil or other compounds for the potential treatment of heart failure under our collaboration;
- Astellas' decisions with regard to funding of development and commercialization of CK-2127107 or other skeletal muscle activators under our collaboration;
- our level of funding for the development of current or future drug candidates;
- the number of drug candidates we pursue;
- the costs involved in filing and prosecuting patent applications and enforcing or defending patent claims;
- our ability to establish and maintain selected strategic alliances required for the development of drug candidates and commercialization of our potential drugs;
- our plans or ability to expand our drug development capabilities, including our capabilities to conduct clinical trials for our drug candidates;
- our plans or ability to engage third party manufacturers for our drug candidates and potential drugs;
- our plans or ability to build or access sales and marketing capabilities and to achieve market acceptance for potential drugs;
- the expansion and advancement of our research programs;
- the hiring of additional employees and consultants;
- the expansion of our facilities;
- the acquisition of technologies, products and other business opportunities that require financial commitments; and
- our revenues, if any, from successful development of our drug candidates and commercialization of potential drugs.

We have incurred an accumulated deficit of $526.9 million since inception and there can be no assurance that we will attain profitability. We are subject to risks common to clinical-stage companies including, but not limited to, development of new drug candidates, dependence on key personnel, and the ability to obtain additional capital as needed to fund our future plans. Our liquidity will be impaired if sufficient additional capital is not available on terms acceptable to us, if at all. To date, we have funded our operations primarily through sales of our common stock and convertible preferred stock, contract payments under our collaboration agreements, debt financing arrangements, grants and interest income. Until we achieve profitable operations, we intend to continue to fund operations through payments from strategic collaborations, additional sales of equity securities, grants and debt financings. We have never generated revenues from commercial sales of our drugs and may not have drugs to market for at least several years, if ever. Our success is dependent on our ability to obtain additional capital by entering into new strategic collaborations and/or through equity or debt financings, and ultimately on our and our collaborators' ability to successfully develop and market one or more of our drug candidates. We cannot be certain that sufficient funds will be available from such collaborators or financings when needed or on satisfactory terms. Additionally, there can be no assurance that any of drugs based on our drug candidates will be accepted in the marketplace or that any future products can be developed or manufactured at an acceptable cost. These factors could have a material adverse effect on our future financial results, financial position and cash flows.

Based on the current status of our development plans, we believe that our existing cash and cash equivalents, investments and interest earned on investments will be sufficient to meet our projected operating requirements for at least the next 12 months. If, at any time, our prospects for internally financing our research and development programs decline, we may decide to reduce research and development expenses by delaying, discontinuing or reducing our funding of development of one or more of our drug candidates or of other research and development programs. Alternatively, we might raise funds through strategic relationships, public or private financings or other arrangements. There can be no assurance that funding, if needed, will be available on attractive terms, or at all, or in accordance with our planned timelines. Furthermore, financing obtained through future strategic relationships may require us to forego certain commercialization and other rights to our drug candidates. Similarly, any additional equity financing may be dilutive to stockholders and debt financing, if available, may involve restrictive covenants. Our failure to raise capital as and when needed could have a negative impact on our financial condition and our ability to pursue our business strategy.

Off-Balance Sheet Arrangements

We are not party to any off-balance sheet arrangements that have, or are reasonably likely to have, a material current or future effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our exposure to market risk has not changed materially since our disclosures in Item 7A, “Quantitative and Qualitative Disclosures About Market Risk” in our Annual Report on Form 10-K for the year ended December 31, 2015.

ITEM 4. CONTROLS AND PROCEDURES

(a) Evaluation of disclosure controls and procedures

Our management evaluated, with the participation and under the supervision of our Chief Executive Officer and our Chief Financial Officer, the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Based on this evaluation, our Chief Executive Officer and our Chief Financial Officer have concluded, subject to the limitations described below, that our disclosure controls and procedures are effective to ensure that information we are required to disclose in reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, and that such information is accumulated and communicated to management as appropriate to allow timely decisions regarding required disclosures.

(b) Changes in internal control over financial reporting

There was no change in our internal control over financial reporting that occurred during the period covered by this report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

(c) Limitations on the effectiveness of controls

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

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

On November 28, 2014, Pharm-Olam International, Ltd. ("Pharm-Olam") filed a lawsuit in the U.S. District Court for the Middle District of North Carolina, captioned Pharm-Olam International, Ltd. v. Cytokinetics, Inc. and Datatrak International, Inc., Civil Action No. 1:14-cv-01000 (the "North Carolina Lawsuit") in connection with its performance as the Contract Research Organization for the BENEFIT-ALS clinical trial. On September 16, 2015, the U.S. District Court for the Middle District of North Carolina dismissed the North Carolina lawsuit.

On December 1, 2014, we filed a lawsuit in the U.S. District Court for the Northern District of California, captioned Cytokinetics, Inc. v. Pharm-Olam International, Ltd., Case No. 3:14-cv-05256-JCS (the "California Lawsuit"). This lawsuit alleged fraudulent inducement, breach of contract and negligence by Pharm-Olam in connection with its performance as the Contract Research Organization for the BENEFIT-ALS clinical trial. We sought monetary damages from Pharm-Olam. Pharm-Olam answered the complaint on March 24, 2015. Datatrak International, Inc. ("Datatrak") filed a motion to intervene as a new party plaintiff on June 5, 2015, which the court granted on July 1, 2015. Datatrak sought a declaratory judgment that the indemnification provision of the agreement between Pharm-Olam and Datatrak did not require Datatrak to indemnify Pharm-Olam for the claims asserted against Pharm-Olam by Cytokinetics.

On or around June 7, 2016, the Company, Pharm-Olam, and Datatrak entered into a Settlement Agreement and Mutual Waiver and General Release of All Claims in the California Lawsuit, thereby resolving all disputes among the parties. The Settlement Agreement includes no admission of liability or wrongdoing by any party. The Court granted the parties' joint request for dismissal with prejudice on July 11, 2016. Refer to Note 11, "Commitments and Contingencies" in the Notes to the Unaudited Condensed Consolidated Financial Statements and the settlement agreement in June 2016.

ITEM 1A. RISK FACTORS

In evaluating our business, you should carefully consider the following risks in addition to the other information in this report. Any of the following risks could materially and adversely affect our business, results of operations, financial condition or your investment in our securities, and many are beyond our control. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also adversely affect our business.

Risks Related To Our Business

We have a history of significant losses and may not achieve or sustain profitability and, as a result, you may lose all or part of your investment.

We have generally incurred operating losses in each year since our inception in 1997, due to costs incurred in connection with our research and development activities and general and administrative costs associated with our operations. Our drug candidates are all in early through late-stage clinical testing, and we and our partners must conduct significant additional clinical trials before we and our partners can seek the regulatory approvals necessary to begin commercial sales of our drugs. We expect to incur increasing losses for at least several more years, as we continue our research activities and conduct development of, and seek regulatory approvals for, our drug candidates, and commercialize any approved drugs. If our drug candidates fail or do not gain regulatory approval, or if our drugs do not achieve market acceptance, we will not be profitable. If we fail to become and remain profitable, or if we are unable to fund our continuing losses, you could lose all or part of your investment.

We will need substantial additional capital in the future to sufficiently fund our operations.

We have consumed substantial amounts of capital to date, and our operating expenditures will increase over the next several years if we expand our research and development activities. We have funded all of our operations and capital expenditures with proceeds from private and public sales of our equity securities, strategic alliances with Amgen, Astellas and others, long term debt, equipment financings, interest on investments, government grants and other grants. We believe that our existing cash and cash equivalents, short-term investments and interest earned on investments should be sufficient to meet our projected operating requirements for at least the next 12 months. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development of our drug candidates and other research and development activities, including risks and uncertainties that could impact the rate of progress of our development activities, we are unable to estimate with certainty the amounts of capital outlays and operating expenditures associated with these activities.

For the foreseeable future, our operations will require significant additional funding, in large part due to our research and development expenses and the absence of any revenues from product sales. For example, we will require significant additional funding to enable us to conduct further development of tirasemtiv for the potential treatment of ALS, including any additional Phase 3 clinical trials that may be required by regulatory authorities to receive marketing approval for tirasemtiv. Until we can generate a sufficient amount of product revenue, we expect to raise future capital through strategic alliance and licensing arrangements, public or private equity offerings and debt financings. We do not currently have any commitments for future funding other than reimbursements, milestone and royalty payments that we may receive under our collaboration agreements with Amgen and Astellas. We may not receive any further funds under those agreements. Our ability to raise funds may be adversely impacted by current economic conditions. As a result of these and other factors, we do not know whether additional financing will be available when needed, or that, if available, such financing would be on terms favorable to our stockholders or us.

To the extent that we raise additional funds through strategic alliances or licensing and other arrangements with third parties, we will likely have to relinquish valuable rights to our technologies, research programs or drug candidates, or grant licenses on terms that may not be favorable to us. To the extent that we raise additional funds by issuing equity securities, our stockholders will experience additional dilution and our share price may decline. To the extent that we raise additional funds through debt financing, the financing may involve covenants that restrict our business activities. In addition, funding from any of these sources, if needed, may not be available to us on favorable terms, or at all, or in accordance with our planned timelines.

If we cannot raise the funds we need to operate our business, we will need to delay or discontinue certain research and development activities. For example, if we cannot raise the funds necessary to enable the conduct of further development for tirasemtiv for the potential treatment of ALS, our ability to continue the development of tirasemtiv will be delayed or suspended. If we delay or discontinue research and development activities, our stock price may be negatively affected.

Covenants in our loan and security agreement restrict our business and operations in many ways and if we do not effectively manage our covenants, our financial conditions and results of operations could be adversely affected. In addition, our operations may not provide sufficient revenue to meet the condition required in order to access the final loan available under the agreement and may also not provide sufficient cash to meet the repayment obligations of our debt incurred under the loan and security agreement.

Our loan and security agreement with Oxford Finance LLC and Silicon Valley Bank provides for up to $40.0 million in term loans due on October 1, 2020, of which $30.0 million in term loans has been borrowed to date. All of our current and future assets, except for intellectual property, are secured for our borrowings under the loan and security agreement. The loan and security agreement requires that we comply with certain covenants applicable to us, including among other things, covenants restricting dispositions, changes in business, management, ownership or business locations, mergers or acquisitions, indebtedness, encumbrances, distributions, investments, transactions with affiliates and subordinated debt, any of which could restrict our business and operations, particularly our ability to respond to changes in our business or to take specified actions to take advantage of certain business opportunities that may be presented to us. Our failure to comply with any of the covenants could result in a default under the loan and security agreement, which could permit the lenders to declare all or part of any outstanding borrowings to be immediately due and payable, or to refuse to permit additional borrowings under the loan and security agreement. If we are unable to repay those amounts, the lenders under the loan and security agreement could proceed against the collateral granted to them to secure that debt, which would seriously harm our business. In addition, should we be unable to comply with these covenants or if we default on any portion of our outstanding borrowings, the lenders can also impose a 5.0% penalty and restrict access to additional borrowings under the loan and security agreement. Moreover, our ability to access the final $10.0 million under the loan and security agreement is subject to our ability to achieve a certain conditions, including certain clinical development milestones or an equity financing milestone, which conditions we may not be able to meet and which and could adversely affect our liquidity. In addition, although we expect to borrow additional funds under the loan and security agreement, before we do so, we must first satisfy ourselves that we will have access to future alternate sources of capital, including cash flow from our own operations, equity capital markets or debt capital markets in order to repay any principal borrowed, which we may be unable to do, in which case, our liquidity and ability to fund our operations may be substantially impaired.

We have never generated, and may never generate, revenues from commercial sales of our drugs and we will not have drugs to market for at least several years, if ever.

We currently have no drugs for sale and we cannot guarantee that we will ever develop or obtain approval to market any drugs. To receive marketing approval for any drug candidate, we must demonstrate that the drug candidate satisfies rigorous standards of safety and efficacy to the FDA in the United States and other regulatory authorities abroad. We and our partners will need to conduct significant additional research and preclinical and clinical testing before we or our partners can file applications with the FDA or other regulatory authorities for approval of any of our drug candidates. In addition, to compete effectively, our drugs must be easy to use, cost-effective and economical to manufacture on a commercial scale, compared to other therapies available for the treatment of the same conditions. We may not achieve any of these objectives. Currently, our only drug candidates in clinical development are tirasemtiv for the potential treatment of ALS, CK-2127107 for the potential treatment of SMA, COPD, ALS and potentially other neuromuscular and non-neuromuscular indications associated with muscle weakness and omecamtiv mecarbil for the potential treatment of heart failure. We cannot be certain that the clinical development of these or any future drug candidates will be successful, that they will receive the regulatory approvals required to commercialize them, that they will ultimately be accepted by prescribers or reimbursed by insurers or that any of our other research programs will yield a drug candidate suitable for clinical testing or commercialization. Our commercial revenues, if any, will be derived from sales of drugs that we do not expect to be commercially marketed for at least several years, if at all. The development of any one or all of these drug candidates may be discontinued at any stage of our clinical trials programs and we may not generate revenue from any of these drug candidates.

Clinical trials may fail to demonstrate the desired safety and efficacy of our drug candidates, which could prevent or significantly delay completion of clinical development and regulatory approval.

Prior to receiving approval to commercialize any of our drug candidates, we or our partners must adequately demonstrate to the satisfaction of FDA and foreign regulatory authorities that the drug candidate is sufficiently safe and effective with substantial evidence from well-controlled clinical trials. We or our partners will need to demonstrate efficacy in clinical trials for the treatment of specific indications and monitor safety throughout the clinical development process and following approval. None of our drug candidates have yet met the safety and efficacy standards required for regulatory approval for commercialization and they may never do so. In addition, for each of our preclinical compounds, we or our partners must adequately demonstrate satisfactory chemistry, formulation, stability and toxicity in order to submit an investigational new drug application ("IND") to the FDA, or an equivalent application in foreign jurisdictions, that would allow us to advance that compound into clinical trials. Furthermore, we or our partners may need to submit separate INDs (or foreign equivalent) to different divisions within the FDA (or foreign regulatory authorities) in order to pursue clinical trials in different therapeutic areas. Each new IND (or foreign equivalent) must be reviewed by the new division before the clinical trial under its jurisdiction can proceed, entailing all the risks of delay inherent to regulatory review. If our or our partners' current or future preclinical studies or clinical trials are unsuccessful, our business will be significantly harmed and our stock price could be negatively affected.

All of our drug candidates are prone to the risks of failure inherent in drug development. Preclinical studies may not yield results that would adequately support the filing of an IND (or a foreign equivalent) with respect to our potential drug candidates. Even if the results of preclinical studies for a drug candidate are sufficient to support such a filing, the results of preclinical studies do not necessarily predict the results of clinical trials. As an example, because the physiology of animal species used in preclinical studies may vary substantially from other animal species and from humans, it may be difficult to assess with certainty whether a finding from a study in a particular animal species will result in similar findings in other animal species or in humans. For any of our drug candidates, the results from Phase 1 clinical trials in healthy volunteers and clinical results from Phase 1 and 2 trials in patients are not necessarily indicative of the results of later and larger clinical trials that are necessary to establish whether the drug candidate is safe and effective for the applicable indication. Likewise, interim results from a clinical trial may not be indicative of the final results from that trial, and results from early Phase 2 clinical trials may not be indicative of the results from later clinical trials. For example, early Phase 2 clinical trials of tirasemtiv in patients with ALS showed encouraging dose-related trends in measurements of the ALS Functional Rating Scale in its revised form (ALSFRS-R), a clinically validated instrument designed to measure disease progression and changes in functional status, for patients receiving tirasemtiv compared to those receiving placebo. However, BENEFIT-ALS, a Phase 2b clinical trial of tirasemtiv in patients with ALS, did not achieve its primary efficacy endpoint, the mean change from baseline in the ALSFRS-R for patients receiving tirasemtiv compared to those receiving placebo.

In addition, while the clinical trials of our drug candidates are designed based on the available relevant information, such information may not accurately predict what actually occurs during the course of the trial itself, which may have consequences for the conduct of an ongoing clinical trial or for the eventual results of that trial. For example, the number of patients planned to be enrolled in a placebo-controlled clinical trial is determined in part by estimates relating to expected treatment effect and variability about the primary endpoint. These estimates are based upon earlier nonclinical and clinical studies of the drug candidate itself and clinical trials of other drugs thought to have similar effects in a similar patient population. If information gained during the conduct of the trial shows these estimates to be inaccurate, we may elect to adjust the enrollment accordingly, which may cause delays in completing the trial, additional expense or a statistical penalty to apply to the evaluation of the trial results.

Furthermore, in view of the uncertainties inherent in drug development, such clinical trials may not be designed with focus on indications, patient populations, dosing regimens, endpoints, safety, efficacy or pharmacokinetic parameters or other variables that will provide the necessary safety or efficacy data to support regulatory approval to commercialize the resulting drugs. For example, we believe that effects on respiratory function, including slow vital capacity (SVC), may be appropriate as a clinical endpoint for tirasemtiv; however, regulatory authorities may not accept these effects as a clinical endpoint to support registration of tirasemtiv for the treatment of ALS. Clinical trials of our drug candidates are designed based on guidance or advice from regulatory agencies, which is subject to change during the development of the drug candidate at any time. Such a change in a regulatory agency's guidance or advice may cause that agency to deem results from trials to be insufficient to support approval of the drug candidate and require further clinical trials of that drug candidate to be conducted. In addition, individual patient responses to the dose administered of a drug may vary in a manner that is difficult to predict. Also, the methods we select to assess particular safety, efficacy or pharmacokinetic parameters may not yield the same statistical precision in estimating our drug candidates' effects as may other methodologies. Even if we believe the data collected from clinical trials of our drug candidates are promising, these data may not be sufficient to support approval by the FDA or foreign regulatory authorities. Non-clinical and clinical data can be interpreted in different ways. Accordingly, the FDA or foreign regulatory authorities could interpret these data in different ways from us or our partners, which could delay, limit or prevent regulatory approval.

Administering any of our drug candidates or potential drug candidates may produce undesirable side effects, also known as adverse events. Toxicities and adverse events observed in preclinical studies for some compounds in a particular research and development program may also occur in preclinical studies or clinical trials of other compounds from the same program. Potential toxicity issues may arise from the effects of the active pharmaceutical ingredient itself or from impurities or degradants that are present in the active pharmaceutical ingredient or could form over time in the formulated drug candidate or the active pharmaceutical ingredient. These toxicities or adverse events could delay or prevent the filing of an IND (or a foreign equivalent) with respect to our drug candidates or potential drug candidates or cause us, our partners or the FDA or foreign regulatory authorities to modify, suspend or terminate clinical trials with respect to any drug candidate at any time during the development program. Further, the administration of two or more drugs contemporaneously can lead to interactions between them, and our drug candidates may interact with other drugs that trial subjects are taking. For example, co-administration of tirasemtiv and riluzole (an approved treatment for ALS) approximately doubles the average maximum riluzole plasma level. If the adverse events are severe or frequent enough to outweigh the potential efficacy of a drug candidate, the FDA or other regulatory authorities could deny approval of that drug candidate for any or all targeted indications. Even if one or more of our drug candidates were approved for sale as drugs, the occurrence of even a limited number of toxicities or adverse events when used in large populations may cause the FDA or foreign regulatory authorities to impose restrictions on, or stop, the further marketing of those drugs. Indications of potential adverse events or toxicities which do not seem significant during the course of clinical trials may later turn out to actually constitute serious adverse events or toxicities when a drug is used in large populations or for extended periods of time.

We have observed certain adverse events in the clinical trials conducted with our drug candidates. For example, in BENEFIT-ALS, adverse events of dizziness, fatigue, nausea, confusional state, muscle spasms, somnolence (sleepiness), decreased appetite, headache, insomnia, dyspnea (difficulty breathing) and dysathria (difficulty speaking) occurred more frequently during treatment with tirasemtiv than with placebo. In addition, weight loss was significantly greater in patients with gastrointestinal adverse events (e.g., nausea and decreased appetite), which occurred more frequently on tirasemtiv than on placebo. In clinical trials of omecamtiv mecarbil, adverse events of chest discomfort, palpitations, dizziness and feeling hot, increases in heart rate, declines in blood pressure, electrocardiographic changes consistent with acute myocardial ischemia and transient rises in the MB fraction of creatine kinase and cardiac troponins I and T, which are indicative of myocardial infarction were observed during treatment with omecamtiv mecarbil.

In addition, clinical trials of tirasemtiv and omecamtiv mecarbil enroll patients who typically suffer from serious diseases which put them at increased risk of death. These patients may die while receiving our drug candidates. In such circumstances, it may not be possible to exclude with certainty a causal relationship to our drug candidate, even though the responsible clinical investigator may view such an event as not study drug-related.

Any failure or significant delay in completing preclinical studies or clinical trials for our drug candidates, or in receiving and maintaining regulatory approval for the sale of any resulting drugs, may significantly harm our business and negatively affect our stock price.

The failure of a number of Phase 3 clinical trials evaluating other compounds as potential treatments for patients with ALS may suggest an increased risk that our planned Phase 3 clinical development program of tirasemtiv in patients with ALS will also fail.

The FDA has not approved any drug for the treatment of ALS since its approval of riluzole in 1995. In recent years, a number of Phase 3 clinical trials of potential treatments for ALS have failed to demonstrate the requisite efficacy for approval or for their continued development. These include Biogen's trial of dexpramipexole, known as EMPOWER, the National Institute of Neurological Disorders and Stroke's trial of ceftriaxone, and Trophos SA's trial of olesoxime. Tirasemtiv, like these compounds, may fail in Phase 3 clinical development if it does not show a statistically significant level of clinical efficacy or if the adverse event profile is too great compared to it benefits. Further, even if we believe the data collected from our planned Phase 3 clinical development program of tirasemtiv are promising and should support approval, the FDA or other regulatory authorities may not deem these data to be sufficient to support approval.

We have never before conducted a Phase 3 clinical trial nor submitted an application for marketing authorization to regulatory authorities, and may be unable to do so for tirasemtiv or any other drug candidates we are developing.

We are conducting VITALITY-ALS, a Phase 3 clinical trial, designed to assess the effects of tirasemtiv versus placebo on slow vital capacity ("SVC") and other measure of respiratory function in patients with ALS. Conducting Phase 3 clinical trials and submitting a successful application for marketing authorization is complex, time consuming and expensive. We have not previously conducted a Phase 3 clinical trial and have limited experience in preparing, submitting and prosecuting a marketing authorization. Consequently, we may be unable to effectively and efficiently execute and complete the trial in a manner that leads to the submission to and approval by regulatory authorities of a marketing application for tirasemtiv. We may require more time and incur greater costs than our competitors and may not succeed in obtaining regulatory approvals of products that we develop. Failure to commence or complete, or delays in, our planned clinical trials, would prevent us from or delay us in commercializing tirasemtiv, and other product candidates we are developing.

Neither the FDA nor European regulatory authorities has accepted the primary endpoint in our Phase 3 clinical trial in patients with ALS (a statistically significant reduction in the decline in SVC) as a sufficient measure of clinical significance alone to support regulatory approval of tirasemtiv for the treatment of ALS.

To commercialize tirasemtiv, we must first demonstrate to the satisfaction of the FDA or foreign regulatory authorities that tirasemtiv is sufficiently safe and effective. To date, neither the FDA nor European regulatory authorities has indicated that the primary end point that we have specified in our Phase 3 clinical trial in patients with ALS (change from baseline to 24 weeks in SVC) is, in and of itself, a sufficient measure of clinical significance to establish the efficacy of tirasemtiv. Our Phase 3 clinical trial will also be measuring secondary endpoints of respiratory function and patient condition to provide further evidence of the potential clinical significance of a treatment effect. However, there is no assurance as to which of these secondary endpoints (if any) will be affected even if treatment with tirasemtiv achieves the primary efficacy objective of the trial. Further, there is no assurance as to whether regulatory authorities would accept the outcome of the trial as being a sufficient demonstration of clinical efficacy even if the primary endpoint and all secondary endpoints are achieved. We will continue interactions with regulatory authorities regarding the appropriate assessment(s) of the clinical meaningfulness and potential efficacy of therapy in the ALS population. If the results of our Phase 3 clinical trial in ALS are not sufficient to persuade regulatory authorities of the safety and efficacy of tirasemtiv, either because of a failure to achieve pre-specified endpoints or because the authorities do not accept such endpoints as being sufficient, then we would be required to conduct successfully one or more additional Phase 3 clinical trials, prior to receiving marketing authorization, which would be expensive, time consuming and uncertain.

It is not known whether the FDA or other regulatory authorities would accept a single Phase 3 clinical trial as being adequate to support marketing approval of tirasemtiv, even if the results of such trial are positive.

The conventional standard for granting marketing authorization of a new investigational medicine is the demonstration of safety and efficacy in two large, well-controlled Phase 3 clinical trials. The Phase 3 trial of tirasemtiv in ALS that we are currently conducting will be the first Phase 3 trial of this drug candidate. In the case of diseases with high unmet medical need, such as ALS, regulatory authorities may exercise their discretion to approve a new pharmaceutical on the basis of a single outcomes trial (sometimes subject to the conduct of subsequent confirmatory trial(s)). However, this is always within the judgment of the regulatory authorities and is dependent on their assessment of the degree of success achieved in the clinical trial as balanced by the potential risks associated with treatment. In addition, the design of the VITALITY-ALS Phase 3 clinical may not provide conclusive data on the most safe and effective dose of tirasemtiv in patients with ALS that meets the satisfaction of regulatory authorities, thereby requiring us to conduct another Phase 3 trial. Even if our first Phase 3 trial of tirasemtiv shows positive results and provides all necessary data to determine appropriate dosing, regulatory authorities may nonetheless require us to successfully conduct one or more additional Phase 3 clinical trials prior to receiving marketing authorization, which would be expensive, time consuming and uncertain.

Clinical trials are expensive, time-consuming and subject to delay.

Clinical trials are subject to rigorous regulatory requirements and are very expensive, difficult and time-consuming to design and implement. The length of time and number of trial sites and patients required for clinical trials vary substantially based on the type, complexity, novelty, intended use of the drug candidate and safety concerns. We estimate that the clinical trials of our current drug candidates will each continue for several more years. However, the clinical trials for all or any of our drug candidates may take significantly longer to complete. The commencement and completion of our or our partners' clinical trials could be delayed or prevented by many factors, including, but not limited to:

- delays in obtaining, or inability to obtain, regulatory or other approvals to commence and conduct clinical trials in the manner we or our partners deem necessary for the appropriate and timely development of our drug candidates and commercialization of any resulting drugs;
- delays in identifying and reaching agreement, or inability to identify and reach agreement, on acceptable terms, with prospective clinical trial sites and other entities involved in the conduct of our or our partners' clinical trials;

- delays or additional costs in developing, or inability to develop, appropriate formulations of our drug candidates for clinical trial use, including an appropriate modified release oral formulation for omecamtiv mecarbil;
- slower than expected rates of patient recruitment and enrollment, including as a result of competition for patients with other clinical trials; limited numbers of patients that meet the enrollment criteria; patients', investigators' or trial sites' reluctance to agree to the requirements of a protocol; or the introduction of alternative therapies or drugs by others;
- for those drug candidates that are the subject of a strategic alliance, delays in reaching agreement with our partner as to appropriate development strategies;
- a regulatory authority may require changes to a protocol for a clinical trial that then may require approval from regulatory agencies in other jurisdictions where the trial is being conducted;
- an institutional review board ("IRB") or its foreign equivalent may require changes to a protocol that then require approval from regulatory agencies and other IRBs and their foreign equivalents, or regulatory authorities may require changes to a protocol that then require approval from the IRBs or their foreign equivalents;
- for clinical trials conducted in foreign countries, the time and resources required to identify, interpret and comply with foreign regulatory requirements or changes in those requirements, and political instability or natural disasters occurring in those countries;
- lack of effectiveness of our drug candidates during clinical trials;
- unforeseen safety issues;
- inadequate supply, or delays in the manufacture or supply, of clinical trial materials;
- uncertain dosing issues;
- failure by us, our partners, or clinical research organizations, investigators or site personnel engaged by us or our partners to comply with good clinical practices and other applicable laws and regulations, including those concerning informed consent;
- inability or unwillingness of investigators or their staffs to follow clinical protocols;
- failure by our clinical research organizations, clinical manufacturing organizations and other third parties supporting our or our partners' clinical trials to fulfill their obligations;
- inability to monitor patients adequately during or after treatment;
- introduction of new therapies or changes in standards of practice or regulatory guidance that render our drug candidates or their clinical trial endpoints obsolete; and
- results from non-clinical studies that may adversely impact the timing or further development of our drug candidates.

We do not know whether planned clinical trials will begin on time, or whether planned or currently ongoing clinical trials will need to be restructured or will be completed on schedule, if at all. Significant delays in clinical trials will impede our ability to commercialize our drug candidates and generate revenue and could significantly increase our development costs.

We depend on Amgen for the conduct and funding of the development and commercialization of omecamtiv mecarbil.

Under our strategic alliance, Amgen holds an exclusive worldwide license to our drug candidate omecamtiv mecarbil. As a result, Amgen is responsible for the development and obtaining and maintaining regulatory approval of omecamtiv mecarbil for the potential treatment of heart failure worldwide.

While we announced in September 2016 that Amgen was advancing omecamtiv mecarbil into Phase 3 clinical development, we do not control the development activities being conducted or that may be conducted in the future by Amgen, including, but not limited to, the timing of initiation, termination or completion of clinical trials, the analysis of data arising out of those clinical trials or the timing of release of data concerning those clinical trials, which may impact our ability to report on Amgen's results. Amgen may conduct these activities more slowly or in a different manner than we would if we controlled the development of omecamtiv mecarbil. Amgen is responsible for filing future applications with the FDA and other regulatory authorities for approval of omecamtiv mecarbil and will be the owner of marketing approvals issued by the FDA or other regulatory authorities for omecamtiv mecarbil, subject to Servier's exclusive rights for the commercialization of omecamtiv mecarbil in Europe, as well as the CIS, including Russia. If the FDA or other regulatory authorities approve omecamtiv mecarbil, Amgen will also be responsible for the marketing and sale of the resulting drug, subject to our right to co-promote omecamtiv mecarbil in North America if we exercise our option to co-fund Phase 3 development costs of omecamtiv mecarbil under the collaboration and subject to Servier's exclusive rights for the commercialization of omecamtiv mecarbil in Europe, as well as the CIS, including Russia. However, we cannot control whether Amgen will devote sufficient attention and resources to the development of omecamtiv mecarbil or will proceed in an expeditious manner, even if we do exercise our option to co-fund the development of omecamtiv mecarbil. Even if the FDA or other regulatory agencies approve omecamtiv mecarbil, Amgen or Servier may elect not to proceed with the commercialization of the resulting drug in one or more countries.

If the results of one or more clinical trials with omecamtiv mecarbil do not meet Amgen's expectations at any time, Amgen may elect to terminate further development of omecamtiv mecarbil or certain of the potential clinical trials for omecamtiv mecarbil, even if the actual number of patients treated at that time is relatively small. In addition, Amgen generally has discretion to elect whether to pursue or abandon the development of omecamtiv mecarbil and may terminate our strategic alliance for any reason upon six months prior notice. With our consent, Amgen granted Servier an option to commercialize omecamtiv mecarbil in Europe and the CIS, including Russia, which Servier decided to exercise. In August 2016, we entered into a letter agreement with Amgen and Servier, which provides that if Amgen's rights to omecamtiv mecarbil are terminated with respect to the territory subject to Servier's sublicense, the sublicensed rights previously granted by Amgen to Servier with respect to omecamtiv mecarbil in Europe and the CIS, including Russia, will remain in effect and become a direct license or sublicense of such rights by us to Servier, on substantially the same terms as those in the Option, License and Collaboration Agreement between Amgen and Servier. If Amgen abandons omecamtiv mecarbil, it would result in a delay in or could prevent us from commercializing omecamtiv mecarbil, and would delay and could prevent us from obtaining revenues for this drug candidate. In addition, we would be required to provide Servier with a direct license or sublicense and the rights to commercialize omecamtiv mecarbil in Europe and the CIS, including Russia on terms that were not negotiated by us. There can be no assurance that we would be able to negotiate and enter into a definitive agreement with Servier on terms favorable or acceptable to us, or at all.

Disputes may arise between us and Amgen, which may delay or cause the termination of any omecamtiv mecarbil clinical trials, result in significant litigation or cause Amgen to act in a manner that is not in our best interest. The costs associated with the continuing development of omecamtiv mecarbil may cause Amgen to reconsider the terms of its investment and seek to amend or terminate our collaboration agreement or to suspend the development of omecamtiv mecarbil. If development of omecamtiv mecarbil does not progress for these or any other reasons, we would not receive further milestone payments or royalties on product sales from Amgen with respect to omecamtiv mecarbil. If Amgen abandons development of omecamtiv mecarbil prior to regulatory approval or if it elects not to proceed with commercialization of the resulting drug following regulatory approval, we would have to seek a new partner for development or commercialization, curtail or abandon that development or commercialization, or undertake and fund the development of omecamtiv mecarbil or commercialization of the resulting drug ourselves. If we seek a new partner but are unable to do so on acceptable terms, or at all, or do not have sufficient funds to conduct the development or commercialization of omecamtiv mecarbil ourselves, we would have to curtail or abandon that development or commercialization, which could harm our business.

We depend on Astellas for the conduct and funding of the development and commercialization of CK-2127107.

In December 2014, we expanded our strategic alliance with Astellas focused on the research, development and commercialization of skeletal muscle activators, other than tirasemtiv and certain related compounds. The primary objective of the strategic alliance is to advance novel therapies for indications associated with muscle weakness.

Under this strategic alliance, we have granted Astellas an exclusive license to co-develop and commercialize CK-2127107 for potential application in spinal muscular atrophy (SMA) and potentially other indications worldwide. We have initiated a Phase 2 clinical trial of patients with SMA and in June 2016, Astellas, in collaboration with us, initiated a Phase 2 clinical trial of CK-2127107 in patients with COPD.

In July 2016, we expanded our collaboration with Astellas and granted Astellas an option to enter into a pre-negotiated agreement for a global collaboration for the development and commercialization of tirasemtiv, including worldwide commercialization rights for Astellas outside our commercialization territory in North America, Europe and other select countries. In addition, under this 2016 expansion, we will collaborate with Astellas to develop CK-2127107 in ALS. Astellas will be primarily responsible for the development of CK-2127107 in ALS, and the Company will conduct the Phase 2 clinical trial of CK-2127107 in ALS.

We do not control the development activities that may be conducted by Astellas, including, but not limited to, the timing of initiation, termination or completion of clinical trials, the analysis of data arising out of those clinical trials or the timing of release of data concerning those clinical trials, which may impact our ability to report on Astellas' results. Astellas may conduct these activities more slowly or in a different manner than we would. In general, Astellas is responsible for filing future applications with the FDA or other regulatory authorities for approval of CK-2127107 and will be the owner of any marketing approvals issued by the FDA or other regulatory authorities for CK-2127107. If the FDA or other regulatory authorities approve CK-2127107, Astellas will also be responsible for the marketing and sale of the resulting drug, subject to our right to co-promote the drug in the United States, Canada and, for neuromuscular indications, Europe. However, we cannot control whether Astellas will devote sufficient attention and resources to the development of CK-2127107 or will proceed in an expeditious manner. Even if the FDA or other regulatory agencies approve CK-2127107, Astellas may elect not to proceed with the commercialization of the resulting drug in one or more countries.

If the results of one or more clinical trials with CK-2127107 do not meet Astellas' expectations at any time, Astellas may elect to terminate further development of CK-2127107 or certain of the potential clinical trials for CK-2127107, even if the actual number of patients treated at that time is relatively small. In addition, Astellas generally has discretion to elect whether to pursue or abandon the development of CK-2127107. Astellas may terminate our strategic alliance in whole or in part for any reason upon six months prior notice at any time following expiration of the strategic alliance's research term, which will expire December 31, 2017. If Astellas abandons CK-2127107, it would result in a delay in or could prevent us from further developing or commercializing CK-2127107, and would delay and could prevent us from obtaining revenues for this drug candidate. Disputes may arise between us and Astellas, which may delay or cause the termination of any CK-2127107 clinical trials, result in significant litigation or cause Astellas to act in a manner that is not in our best interest. If development of CK-2127107 does not progress for these or any other reasons, we would not receive further milestone payments or royalties on product sales from Astellas with respect to CK-2127107. If Astellas abandons development of CK-2127107 prior to regulatory approval or if it elects not to proceed with commercialization of the resulting drug following regulatory approval, we would have to seek a new partner for development or commercialization, curtail or abandon that development or commercialization, or undertake and fund the development of CK-2127107 or commercialization of the resulting drug ourselves. If we seek a new partner but are unable to do so on acceptable terms, or at all, or do not have sufficient funds to conduct the development or commercialization of CK-2127107 ourselves, we would have to curtail or abandon that development or commercialization, which could harm our business.

The successful development of CK-2127107 in ALS under our expanded collaboration with Astellas could reduce the commercial potential of tirasemtiv, and our share of the costs of developing CK-2127107 in ALS could limit our ability to pay for other programs, including tirasemtiv.

Tirasemtiv is the lead drug candidate from our skeletal muscle contractility program. We have completed a Phase 2 clinical development program for tirasemtiv, and started a Phase 3 clinical development program for tirasemtiv in patients with ALS in July 2015. In collaboration with Astellas, we are also developing CK-2127107 for potential indications associated with muscle weakness and, as of July 2016 expanded our collaboration with Astellas to develop CK-2127107 in ALS. We expect that we and Astellas will commence a Phase 2 clinical development program of CK-2127107 in ALS in 2017.

Since we will be developing both tirasemtiv and CK-2127107 for ALS, if both drugs are successfully developed and commercialized, they would potentially compete with one another in the same indication. If approved for commercial sale, the commercial launch of CK-2127107 following the commercial launch of tirasemtiv could negatively affect the sales of tirasemtiv. Successful development of CK-2127107 in ALS, or CK-2127107 data that Astellas views as positive, may reduce the likelihood that Astellas will exercise its option to develop and commercialize tirasemtiv, in which case we would not receive any of the payments from Astellas associated with the option exercise, and our ability to commercially launch tirasemtiv in markets outside of North America and Europe may be diminished.

In addition, we and Astellas will share equally the costs of developing CK-2127107 in ALS for potential registration and marketing authorization in the U.S. and Europe, provided that (i) Astellas has agreed to solely fund Phase 2 development costs of CK-2127107 in ALS subject to a right to recoup our share of such costs plus a 100% premium by reducing future milestone and royalty payments to the Company and (ii) we may defer (but not eliminate) a portion of our co-funding obligation for development activities after Phase 2 for up to 18 months, subject to certain conditions. We will, however, be required to fund one half the cost of any Phase 3 development of CK-2127107 in ALS with limited ability to defer or offset such costs. Our one-half share of the costs of any Phase 3 clinical trial of CK-2127107 in ALS could be significant, and could negatively impact our ability to finance other programs, including potentially limiting our ability to pay for the development and/or commercial launch of tirasemtiv.

If we do not enter into strategic alliances for our unpartnered drug candidates or research and development programs or fail to successfully maintain our current or future strategic alliances, we may have to reduce, delay or discontinue our advancement of our drug candidates and programs or expand our research and development capabilities and increase our expenditures.

Drug development is complicated and expensive. We currently have limited financial and operational resources to carry out drug development. Our strategy for developing, manufacturing and commercializing our drug candidates currently requires us to enter into and successfully maintain strategic alliances with pharmaceutical companies or other industry participants to advance our programs and reduce our expenditures on each program. Accordingly, the success of our development activities depends in large part on our current and future strategic partners' performance, over which we have little or no control.

Our ability to commercialize drugs that we develop with our partners and that generate royalties from product sales depends on our partners' abilities to assist us in establishing the safety and efficacy of our drug candidates, obtaining and maintaining regulatory approvals and achieving market acceptance of the drugs once commercialized. Our partners may elect to delay or terminate development of one or more drug candidates, independently develop drugs that could compete with ours or fail to commit sufficient resources to the marketing and distribution of drugs developed through their strategic alliances with us. Our partners may not proceed with the development and commercialization of our drug candidates with the same degree of urgency as we would because of other priorities they face. In addition, new business combinations or changes in a partner's business strategy may adversely affect its willingness or ability to carry out its obligations under a strategic alliance.

If we are not able to successfully maintain our existing strategic alliances or establish and successfully maintain additional strategic alliances, we will have to limit the size or scope of, or delay or discontinue, one or more of our drug development programs or research programs, or undertake and fund these programs ourselves. Alternatively, if we elect to continue to conduct any of these drug development programs or research programs on our own, we will need to expand our capability to conduct clinical development by bringing additional skills, technical expertise and resources into our organization. This would require significant additional funding, which may not be available to us on acceptable terms, or at all.

To the extent we elect to fund the development of a drug candidate, such as tirasemtiv, CK-2127107, or omecamtiv mecarbil, or the commercialization of a drug at our expense, we will need substantial additional funding.

The discovery, development and commercialization of new drugs is costly. As a result, to the extent we elect to fund the development of a drug candidate, such as tirasemtiv, CK-2127107 or omecamtiv mecarbil, or the commercialization of a drug, we will need to raise additional capital to:

- fund clinical trials and seek regulatory approvals;
- expand our development capabilities;
- engage third party manufacturers for such drug candidate or drug;
- build or access commercialization capabilities;
- implement additional internal systems and infrastructure;
- maintain, defend and expand the scope of our intellectual property; and
- hire and support additional management and scientific personnel.

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

- the rate of progress and costs of our or our partners' clinical trials and other research and development activities;
- the costs and timing of seeking and obtaining regulatory approvals;
- the costs associated with establishing manufacturing and commercialization capabilities;
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the costs of acquiring or investing in businesses, products and technologies;
- the effect of competing technological and market developments; and
- the status of, payment and other terms, and timing of any strategic alliance, licensing or other arrangements that we have entered into or may establish.

Until we can generate a sufficient amount of product revenue to finance our cash requirements, which we may never do, we expect to continue to finance our future cash needs primarily through strategic alliances, public or private equity offerings and debt financings. We cannot be certain that additional funding will be available on acceptable terms, or at all. If we are not able to secure additional funding when needed, we may have to delay, reduce the scope of or eliminate one or more of our clinical trials or research and development programs or future commercialization initiatives.

We depend on contract research organizations to conduct our clinical trials and have limited control over their performance.

We have used and intend to continue to use contract research organizations ("CROs") within and outside of the United States to conduct clinical trials of our drug candidates, such as tirasemtiv, CK-2127107 and omecamtiv mecarbil, and related activities. We do not have control over many aspects of our CROs' activities, and cannot fully control the amount, timing or quality of resources that they devote to our programs. CROs may not assign as high a priority to our programs or pursue them as diligently as we would if we were undertaking these programs ourselves. The activities conducted by our CROs therefore may not be completed on schedule or in a satisfactory manner. CROs may also give higher priority to relationships with our competitors and potential competitors than to their relationships with us. Outside of the United States, we are particularly dependent on our CROs' expertise in communicating with clinical trial sites and regulatory authorities and ensuring that our clinical trials and related activities and regulatory filings comply with applicable laws.

Our CROs' failure to carry out development activities on our behalf as agreed and in accordance with our and the FDA's or other regulatory agencies' requirements and applicable U.S. and foreign laws, or our failure to properly coordinate and manage these activities, could increase the cost of our operations and delay or prevent the development, approval and commercialization of our drug candidates. For example, in June 2013, we learned from our data management vendor for our BENEFIT-ALS clinical trial that a programming error in the electronic data capture system controlling study drug assignment caused 58 patients initially randomized to and treated with tirasemtiv to receive placebo instead at a certain trial visit and for the remainder of the trial. In order to maintain the originally intended statistical power of the trial, we amended the protocol to permit enrollment of approximately 680 patients, or 180 patients in addition to the 500 patients allowed under the existing protocol. This protocol amendment resulted in additional costs and delays in conducting BENEFIT-ALS. In addition, if a CRO fails to perform as agreed, our ability to collect damages may be contractually limited. If we fail to effectively manage the CROs carrying out the development of our drug candidates or if our CROs fail to perform as agreed, the commercialization of our drug candidates will be delayed or prevented.

We have no manufacturing capacity and depend on our strategic partners and contract manufacturers to produce our clinical trial materials, including our drug candidates, and anticipate continued reliance on contract manufacturers for the development and commercialization of our potential drugs.

We do not currently operate manufacturing facilities for clinical or commercial production of our drug candidates. We have limited experience in drug formulation and manufacturing, and we lack the resources and the capabilities to manufacture any of our drug candidates on a clinical or commercial scale. Amgen has assumed responsibility to conduct these activities for the ongoing development of omecamtiv mecarbil worldwide. Following our conduct of the early development of CK-2127107, including the ongoing Phase 2 clinical trial in patients with SMA, Astellas will assume primary responsibility to conduct the manufacturing for the ongoing development of CK-2127107 worldwide. For tirasemtiv, we rely on a limited number of contract manufacturers. In particular, we rely on single-source contract manufacturers for the active pharmaceutical ingredient and the drug product supply for our clinical trials, as well as other materials required for the conduct of our clinical trials. We expect to rely on contract manufacturers to supply all future drug candidates for which we conduct development, as well as other materials required for the conduct of our clinical trials. If any of our existing or future contract manufacturers fail to perform satisfactorily, it could delay development or regulatory approval of our drug candidates or commercialization of our drugs, producing additional losses and depriving us of potential product revenues. In addition, if a contract manufacturer fails to perform as agreed, our ability to collect damages may be contractually limited.

Our drug candidates require precise high-quality manufacturing. The failure to achieve and maintain high manufacturing standards, including failure to detect or control anticipated or unanticipated manufacturing errors or the frequent occurrence of such errors, could result in patient injury or death, discontinuance or delay of ongoing or planned clinical trials, delays or failures in product testing or delivery, cost overruns, product recalls or withdrawals and other problems that could seriously hurt our business. Contract drug manufacturers often encounter difficulties involving production yields, quality control and quality assurance and shortages of qualified personnel. These manufacturers are subject to stringent regulatory requirements, including the FDA's current good manufacturing practices regulations and similar foreign laws and standards. Each contract manufacturer must pass a pre-approval inspection before we can obtain marketing approval for any of our drug candidates and following approval will be subject to ongoing periodic unannounced inspections by the FDA, the U.S. Drug Enforcement Agency and other regulatory agencies, to ensure strict compliance with current good manufacturing practices and other applicable government regulations and corresponding foreign laws and standards. We seek to ensure that our contract manufacturers comply fully with all applicable regulations, laws and standards. However, we do not have control over our contract manufacturers' compliance with these regulations, laws and standards. If one of our contract manufacturers fails to pass its pre-approval inspection or maintain ongoing compliance at any time, the production of our drug candidates could be interrupted, resulting in delays or discontinuance of our clinical trials, additional costs and potentially lost revenues. In addition, failure of any third party manufacturers or us to comply with applicable regulations, including pre-or post-approval inspections and the current good manufacturing practice requirements of the FDA or other comparable regulatory agencies, could result in sanctions being imposed on us. These sanctions could include fines, injunctions, civil penalties, failure of regulatory authorities to grant marketing approval of our products, delay, suspension or withdrawal of approvals, license revocation, product seizures or recalls, operational restrictions and criminal prosecutions, any of which could significantly and adversely affect our business.

In addition, our existing and future contract manufacturers may not perform as agreed or may not remain in the contract manufacturing business for the time required to successfully produce, store and distribute our drug candidates. If a natural disaster, business failure, strike or other difficulty occurs, we may be unable to replace these contract manufacturers in a timely or cost-effective manner and the production of our drug candidates would be interrupted, resulting in delays and additional costs.

Switching manufacturers or manufacturing sites would be difficult and time-consuming because the number of potential manufacturers is limited. In addition, before a drug from any replacement manufacturer or manufacturing site can be commercialized, the FDA and, in some cases, foreign regulatory agencies, must approve that site. These approvals would require regulatory testing and compliance inspections. A new manufacturer or manufacturing site also would have to be educated in, or develop substantially equivalent processes for, production of our drugs and drug candidates. It may be difficult or impossible to transfer certain elements of a manufacturing process to a new manufacturer or for us to find a replacement manufacturer on acceptable terms quickly, or at all, either of which would delay or prevent our ability to develop drug candidates and commercialize any resulting drugs.

We may not be able to successfully scale-up manufacturing of our drug candidates in sufficient quality and quantity, which would delay or prevent us from developing our drug candidates and commercializing resulting approved drugs, if any.

To date, our drug candidates have been manufactured in quantities adequate for preclinical studies and early through late-stage clinical trials. In order to conduct larger scale clinical trials for a drug candidate and for commercialization of the resulting drug if that drug candidate is approved for sale, we will need to manufacture some drug candidates in larger quantities. We may not be able to successfully increase the manufacturing capacity for any of our drug candidates, whether in collaboration with third-party manufacturers or on our own, in a timely or cost-effective manner or at all. If a contract manufacturer makes improvements in the manufacturing process for our drug candidates, we may not own, or may have to share, the intellectual property rights to those improvements. Significant scale-up of manufacturing may require additional validation studies, which are costly and which regulatory authorities must review and approve. In addition, quality issues may arise during those scale-up activities because of the inherent properties of a drug candidate itself or of a drug candidate in combination with other components added during the manufacturing and packaging process, or during shipping and storage of the finished product or active pharmaceutical ingredients. If we are unable to successfully scale-up manufacture of any of our drug candidates in sufficient quality and quantity, the development of that drug candidate and regulatory approval or commercial launch for any resulting drugs may be delayed or there may be a shortage in supply, which could significantly harm our business. In addition, data demonstrating the stability of both drug substance and drug product using the commercial manufacturing process and at commercial scale are required for marketing applications. Failure to produce drug substance and drug products in a timely manner and obtain stability data could result in delay of submission of marketing applications.

The mechanisms of action of our drug candidates are unproven, and we do not know whether we will be able to develop any drug of commercial value.

We have discovered and are currently developing drug candidates that have what we believe are novel mechanisms of action directed against cytoskeletal targets, and intend to continue to do so. Because no currently approved drugs appear to operate via the same biochemical mechanisms as our compounds, we cannot be certain that our drug candidates will result in commercially viable drugs that safely and effectively treat the indications for which we intend to develop them. The results we have seen for our compounds in preclinical models may not translate into similar results in humans, and results of early clinical trials in humans may not be predictive of the results of larger clinical trials that may later be conducted with our drug candidates. Even if we are successful in developing and receiving regulatory approval for a drug candidate for the treatment of a particular disease, we cannot be certain that it will be accepted by prescribers or be reimbursed by insurers or that we will also be able to develop and receive regulatory approval for that or other drug candidates for the treatment of other diseases. If we or our partners are unable to successfully develop and commercialize our drug candidates, our business will be materially harmed.

Our success depends substantially upon our ability to obtain and maintain intellectual property protection relating to our drug candidates, compounds and research technologies.

We own, or hold exclusive licenses to, a number of U.S. and foreign patents and patent applications directed to our drug candidates, compounds and research technologies. Our success depends on our ability to obtain patent protection both in the United States and in other countries for our drug candidates, their methods of manufacture and use, and our technologies. Our ability to protect our drug candidates, compounds and technologies from unauthorized or infringing use by third parties depends substantially on our ability to obtain and enforce our patents. If our issued patents and patent applications, if granted, do not adequately describe, enable or otherwise provide coverage of our technologies and drug candidates, including tirasemtiv, CK-2127107 and omecamtiv mecarbil, we or our licensees would not be able to exclude others from developing or commercializing these drug candidates. Furthermore, the degree of future protection of our proprietary rights is uncertain because legal means may not adequately protect our rights or permit us to gain or keep our competitive advantage.

Due to evolving legal standards relating to the patentability, validity and enforceability of patents covering pharmaceutical inventions and the claim scope of these patents, our ability to enforce our existing patents and to obtain and enforce patents that may issue from any pending or future patent applications is uncertain and involves complex legal, scientific and factual questions. The standards which the U.S. Patent and Trademark Office and its foreign counterparts use to grant patents are not always applied predictably or uniformly and are subject to change. To date, no consistent policy has emerged regarding the breadth of claims allowed in biotechnology and pharmaceutical patents. Thus, we cannot be sure that any patents will issue from any pending or future patent applications owned by or licensed to us. Even if patents do issue, we cannot be sure that the claims of these patents will be held valid or enforceable by a court of law, will provide us with any significant protection against competitive products, or will afford us a commercial advantage over competitive products. In particular:

- we or our licensors might not have been the first to make the inventions covered by each of our pending patent applications and issued patents;
- we or our licensors might not have been the first to file patent applications for the inventions covered by our pending patent applications and issued patents;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- some or all of our or our licensors' pending patent applications may not result in issued patents or the claims that issue may be narrow in scope and not provide us with competitive advantages;
- our and our licensors' issued patents may not provide a basis for commercially viable drugs or therapies or may be challenged and invalidated by third parties;
- our or our licensors' patent applications or patents may be subject to interference, opposition or similar administrative proceedings that may result in a reduction in their scope or their loss altogether;
- we may not develop additional proprietary technologies or drug candidates that are patentable; or
- the patents of others may prevent us or our partners from discovering, developing or commercializing our drug candidates.

Patent protection is afforded on a country-by-country basis. Some foreign jurisdictions do not protect intellectual property rights to the same extent as in the United States. Many companies have encountered significant difficulties in protecting and defending intellectual property rights in foreign jurisdictions. Some of our development efforts are performed in countries outside of the United States through third party contractors. We may not be able to effectively monitor and assess intellectual property developed by these contractors. We therefore may not be able to effectively protect this intellectual property and could lose potentially valuable intellectual property rights. In addition, the legal protection afforded to inventors and owners of intellectual property in countries outside of the United States may not be as protective of intellectual property rights as in the United States. Therefore, we may be unable to acquire and protect intellectual property developed by these contractors to the same extent as if these development activities were being conducted in the United States. If we encounter difficulties in protecting our intellectual property rights in foreign jurisdictions, our business prospects could be substantially harmed.

We rely on intellectual property assignment agreements with our corporate partners, employees, consultants, scientific advisors and other collaborators to grant us ownership of new intellectual property that is developed. These agreements may not result in the effective assignment to us of that intellectual property. As a result, our ownership of key intellectual property could be compromised.

Changes in either the patent laws or their interpretation in the United States or other countries may diminish the value of our intellectual property or our ability to obtain patents. For example, the America Invents Act of 2011 may affect the scope, strength and enforceability of our patent rights in the United States or the nature of proceedings which may be brought by us related to our patent rights in the United States.

If one or more products resulting from our drug candidates is approved for sale by the FDA and we do not have adequate intellectual property protection for those products, competitors could duplicate them for approval and sale in the United States without repeating the extensive testing required of us or our partners to obtain FDA approval. Regardless of any patent protection, under current law, an application for a generic version of a new chemical entity cannot be approved until at least five years after the FDA has approved the original product. When that period expires, or if that period is altered, the FDA could approve a generic version of our product regardless of our patent protection. An applicant for a generic version of our product may only be required to conduct a relatively inexpensive study to show that its product is bioequivalent to our product, and may not have to repeat the lengthy and expensive clinical trials that we or our partners conducted to demonstrate that the product is safe and effective. In the absence of adequate patent protection for our products in other countries, competitors may similarly be able to obtain regulatory approval in those countries of generic versions of our products.

We also rely on trade secrets to protect our technology, particularly where we believe patent protection is not appropriate or obtainable. However, trade secrets are often difficult to protect, especially outside of the United States. While we endeavor to use reasonable efforts to protect our trade secrets, our or our partners' employees, consultants, contractors or scientific and other advisors may unintentionally or willfully disclose our information to competitors. In addition, confidentiality agreements, if any, executed by those individuals may not be enforceable or provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure. Pursuing a claim that a third party had illegally obtained and was using our trade secrets would be expensive and time-consuming, and the outcome would be unpredictable. Even if we are able to maintain our trade secrets as confidential, if our competitors independently develop information equivalent or similar to our trade secrets, our business could be harmed.

If we are not able to defend the patent or trade secret protection position of our technologies and drug candidates, then we will not be able to exclude competitors from developing or marketing competing drugs, and we may not generate enough revenue from product sales to justify the cost of development of our drugs or to achieve or maintain profitability.

If we are sued for infringing third party intellectual property rights, it will be costly and time-consuming, and an unfavorable outcome could have a significant adverse effect on our business.

Our ability to commercialize drugs depends on our ability to use, manufacture and sell those drugs without infringing the patents or other proprietary rights of third parties. Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the therapeutic areas in which we are developing drug candidates and seeking new potential drug candidates. In addition, because patent applications can take several years to issue, there may be currently pending applications, unknown to us, which could later result in issued patents that our activities with our drug candidates could infringe. There may also be existing patents, unknown to us, that our activities with our drug candidates could infringe.

Other future products of ours may be impacted by patents of companies engaged in competitive programs with significantly greater resources. Further development of these products could be impacted by these patents and result in significant legal fees.

If a third party claims that our actions infringe its patents or other proprietary rights, we could face a number of issues that could seriously harm our competitive position, including, but not limited to:

- infringement and other intellectual property claims that, even if meritless, can be costly and time-consuming to litigate, delay the regulatory approval process and divert management's attention from our core business operations;
- substantial damages for past infringement which we may have to pay if a court determines that our drugs or technologies infringe a third party's patent or other proprietary rights;
- a court prohibiting us from selling or licensing our drugs or technologies unless the holder licenses the patent or other proprietary rights to us, which it is not required to do; and
- if a license is available from a holder, we may have to pay substantial royalties or grant cross-licenses to our patents or other proprietary rights.

If any of these events occur, it could significantly harm our business and negatively affect our stock price.

We may undertake infringement or other legal proceedings against third parties, causing us to spend substantial resources on litigation and exposing our own intellectual property portfolio to challenge.

Third parties may infringe our patents. To prevent infringement or unauthorized use, we may need to file infringement suits, which are expensive and time-consuming. In an infringement proceeding, a court may decide that one or more of our patents is invalid, unenforceable, or both. In this case, third parties may be able to use our technology without paying licensing fees or royalties. Even if the validity of our patents is upheld, a court may refuse to stop the other party from using the technology at issue on the ground that the other party's activities are not covered by our patents. Policing unauthorized use of our intellectual property is difficult, and we may not be able to prevent misappropriation of our proprietary rights, particularly in countries where the laws may not protect such rights as fully as in the United States. In addition, third parties may affirmatively challenge our rights to, or the scope or validity of, our patent rights.

We may become involved in disputes with our strategic partners over intellectual property ownership, and publications by our research collaborators and clinical investigators could impair our ability to obtain patent protection or protect our proprietary information, either of which would have a significant impact on our business.

Inventions discovered under our current or future strategic alliance agreements may become jointly owned by our strategic partners and us in some cases, and the exclusive property of one of us in other cases. Under some circumstances, it may be difficult to determine who owns a particular invention or whether it is jointly owned, and disputes could arise regarding ownership or use of those inventions. These disputes could be costly and time-consuming, and an unfavorable outcome could have a significant adverse effect on our business if we were not able to protect or license rights to these inventions. In addition, our research collaborators and clinical investigators generally have contractual rights to publish data arising from their work. Publications by our research collaborators and clinical investigators relating to our research and development programs, either with or without our consent, could benefit our current or potential competitors, and may impair our ability to obtain patent protection or protect our proprietary information, which could significantly harm our business.

We may be subject to claims that we or our employees have wrongfully used or disclosed trade secrets of their former employers.

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although no claims against us are currently pending, we may be subject to claims that these employees or we 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 these claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. A loss of key research personnel or their work product could hamper or prevent our ability to develop and commercialize certain potential drugs, which could significantly harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and distract management.

Our competitors may develop drugs that are less expensive, safer or more effective than ours, which may diminish or eliminate the commercial success of any drugs that we may commercialize.

We compete with companies that have developed drugs or are developing drug candidates for cardiovascular diseases, diseases and conditions associated with muscle weakness or wasting and other diseases for which our drug candidates may be useful treatments. For example, if tirasemtiv is approved for marketing by the FDA or other regulatory authorities for the treatment of ALS, it may then compete with other potential new therapies for ALS that are currently being developed by companies such as Neuraltus Pharmaceuticals, Inc., which is developing NP001; Ionis Pharmaceuticals, Inc., (in collaboration with Biogen, Inc.), which is developing Ionis-SOD1Rx; AB Science, which is developing masitinib; Mitsubishi Tanabe Pharma Corporation, which is developing Radicut (edaravone); Eisai Co. Ltd., which is developing mecobalamin; Orion Pharma (UK) Ltd., which is developing levosimendan; Genervon Biopharmaceuticals, LLC, which is developing GM604; Q Therapeutics, which is developing Q Cells; Genentech, Inc., which is developing GCD-0134; MediciNova, Inc. which is developing ibudilast, Edison Pharma which is developing EPI-589, and VM BioPharm which is developing VM202. In addition, BrainStorm Cell Therapeutics and Neuralstem, Inc. are each conducting clinical development of stem cell therapies for the potential treatment of ALS. Tirasemtiv may also compete with Rilutek (riluzole), manufactured by Sanofi and several generics manufacturers including Apotex Corp., Glenmark Generics, and Sun Pharmaceuticals.

If CK-2127107 is approved by the FDA or other regulatory authorities for the potential treatment of SMA, potential competitors include Roche (in collaboration with PTC Therapeutics and Trophos SA), AveXis, Inc., Pfizer Inc., Ionis Pharmaceuticals, Inc. (in collaboration with Biogen, Inc,), Novartis AG, and Bioblast Pharma, Ltd. Drugs that could compete with CK-2127107 could also compete against tirasemtiv in ALS or other neuromuscular diseases, should the appropriate clinical trials be conducted. If CK-2127107 is approved by the FDA for the potential treatment of non-neuromuscular indications associated with muscle weakness, potential competitors include Regeneron Pharmaceuticals, Inc. (in collaboration with Sanofi), which is developing SAR391786, a monoclonal antibody targeted to GDF8, for sarcopenia; Acceleron Pharma, which is developing ACE-083 for diseases such as inclusion body myositis and certain forms of muscular dystrophy; Eli Lilly and Company, which is developing landogrozumab, a monoclonal antibody to myostatin, in muscle wasting after hip arthroplasty; vTv Therapeutics, which is developing HPP593, a PPAR delta agonist, in muscle weakness; Summit Therapeutics, which is developing SMT-C1100, a utrophin stimulator, in Duchenne muscular dystrophy; Pfizer Inc., which is developing PF-06252616, a monoclonal antibody targeted to myostatin, in Duchenne muscular dystrophy; and Novartis (in collaboration with Morphosys AG), is conducting clinical development with an activin type-IIB receptor antagonist, bimagrumab, to evaluate its ability to treat diseases involving the loss of muscle mass, strength and function.

If omecamtiv mecarbil is approved for marketing by the FDA or other regulatory authorities for the treatment of heart failure, it would compete against other drugs used for the treatment of acute and chronic heart failure. These include generic drugs, such as milrinone, dobutamine or digoxin and branded drugs such as Natrecor (nesiritide) Procoralan/Corlanor (ivabradine), and Entresto. Omecamtiv mecarbil could also potentially compete against other novel drug candidates and therapies in development, such as bucindolol, which is being developed by ARCA biopharma, Inc.; Reasanz (serelaxin), from Novartis; cenderitide (CD-NP), which is being developed by Carpicor Therapeutics, Inc.; ularitide, which is being developed by Cardiorentis Ltd.; aladorian, which is being developed by ARMGO Pharma, Inc; certain cardioprotectants which are being developed by Cardioxyl Pharmaceuticals, Inc.; glial growth factor (GGF-2) which is being developed by Acorda Therapeutics, Inc.; Neurocardin, which is being developed by Zensun Sci & Tech, Ltd; elamipretide, which is being developed by Stealth Therapeutics, Inc.; ONO-4232, which is being developed by Ono Pharmaceutical Co. Ltd.; finerenone and vericiguat, which are being developed by Bayer, AG; and levosimendan, which was acquired for development by Oxygen Biotherapeutics, Inc. In addition, there are a number of medical devices being developed for the potential treatment of heart failure.

Our competitors may:

- develop drug candidates and market drugs that are less expensive or more effective than our future drugs;
- commercialize competing drugs before we or our partners can launch any drugs developed from our drug candidates;
- hold or obtain proprietary rights that could prevent us from commercializing our products;
- initiate or withstand substantial price competition more successfully than we can;
- more successfully recruit skilled scientific workers and management from the limited pool of available talent;
- more effectively negotiate third-party licenses and strategic alliances;
- take advantage of acquisition or other opportunities more readily than we can;
- develop drug candidates and market drugs that increase the levels of safety or efficacy that our drug candidates will need to show in order to obtain regulatory approval; or
- introduce therapies or market drugs that render the market opportunity for our potential drugs obsolete.

We will compete for market share against large pharmaceutical and biotechnology companies and smaller companies that are collaborating with larger pharmaceutical companies, new companies, academic institutions, government agencies and other public and private research organizations. Many of these competitors, either alone or together with their partners, may develop new drug candidates that will compete with ours. Many of these competitors have larger research and development programs or substantially greater financial resources than we do. Our competitors may also have significantly greater experience in:

- developing drug candidates;
- undertaking preclinical testing and clinical trials;
- building relationships with key customers and opinion-leading physicians;
- obtaining and maintaining FDA and other regulatory approvals of drug candidates;
- formulating and manufacturing drugs; and
- launching, marketing and selling drugs.

If our competitors market drugs that are less expensive, safer or more efficacious than our potential drugs, or that reach the market sooner than our potential drugs, we may not achieve commercial success. In addition, the life sciences industry is characterized by rapid technological change. If we fail to stay at the forefront of technological change, we may be unable to compete effectively. Our competitors may render our technologies obsolete by improving existing technological approaches or developing new or different approaches, potentially eliminating the advantages in our drug discovery process that we believe we derive from our research approach and proprietary technologies.

We have been granted orphan designations in the U.S. and in the E.U. for tirasemtiv; however, there can be no guarantee that we will receive orphan approval for tirasemtiv nor that we will be able to prevent third parties from developing and commercializing products that are competitive to tirasemtiv.

We have been granted orphan drug designation in the U.S. by the FDA and orphan medicinal product designation by the European Medicines Agency, in each case for tirasemtiv for the potential treatment of ALS. In the U.S., upon approval from the FDA of an NDA, products granted orphan drug approval are generally provided with seven years of marketing exclusivity in the U.S., meaning the FDA will generally not approve applications for other product candidates for the same orphan indication that contain the same active ingredient. Even if we are the first to obtain approval of an orphan product and are granted exclusivity in the U.S., there are limited circumstances under which a later competitor 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 product or due to an inability to assure a sufficient quantity of the orphan drug.

Orphan medicinal product status in Europe Union can provide up to 10 years of marketing exclusivity, meaning that another application for marketing authorization of a later similar medicinal product for the same therapeutic indication will generally not be approved in the European Union. Although we may have drug candidates that may obtain orphan drug exclusivity in Europe, the orphan approval and associated exclusivity period may be modified for several reasons, including a significant change to the orphan medicinal product designations or approval criteria after market authorization of the orphan product (*e.g.*, product profitability exceeds the criteria for orphan drug designation), problems with the production or supply of the orphan drug or a competitor drug, although similar, is safer, more effective or otherwise clinically superior than the initial orphan drug.

We are not guaranteed to maintain orphan status for tirasemtiv or to receive orphan status for tirasemtiv for any other indication or for any of our other drug candidates for any indication. If our drug candidates that are granted orphan status were to lose their status as orphan drugs or the marketing exclusivity provided for them in the U.S. or the European Union, our business and results of operations could be materially adversely affected. While orphan status for any of our products, if granted or maintained, would provide market exclusivity in the U.S. and the European Union for the time periods specified above, we would not be able to exclude other companies from manufacturing and/or selling products using the same active ingredient for the same indication beyond the exclusivity period applicable to our product on the basis of orphan drug status. Moreover, we cannot guarantee that another company will not receive approval before we do of an orphan drug application in the U.S. or the European Union for a product candidate that has the same active ingredient or is a similar medicinal product for the same indication as any of our drug candidates for which we plan to file for orphan designation and status. If that were to happen, our orphan drug applications for our drug candidate for that indication may not be approved until the competing company's period of exclusivity has expired in the U.S. or the European Union, as applicable. Further, application of the orphan drug regulations in the U.S. and Europe is uncertain, and we cannot predict how the respective regulatory bodies will interpret and apply the regulations to our or our competitors' products.

Our failure to attract and retain skilled personnel could impair our drug development and commercialization activities.

Our business depends on the performance of our senior management and key scientific and technical personnel. The loss of the services of any member of our senior management or key scientific or technical staff may significantly delay or prevent the achievement of drug development and other business objectives by diverting management's attention to transition matters and identifying suitable replacements. We also rely on consultants and advisors to assist us in formulating our research and development strategy. All of our consultants and advisors are either self-employed or employed by other organizations, and they may have conflicts of interest or other commitments, such as consulting or advisory contracts with other organizations, that may affect their ability to contribute to us. In addition, if and as our business grows, we will need to recruit additional executive management and scientific and technical personnel. There is intense competition for skilled executives and employees with relevant scientific and technical expertise, and this competition is likely to continue. Our inability to attract and retain sufficient scientific, technical and managerial personnel could limit or delay our product development activities, which would adversely affect the development of our drug candidates and commercialization of our potential drugs and growth of our business.

Any future workforce and expense reductions may have an adverse impact on our internal programs and our ability to hire and retain skilled personnel.

Our future success will depend in large part upon our ability to attract and retain highly skilled personnel. In light of our continued need for funding and cost control, we may be required to implement future workforce and expense reductions, which could further limit our research and development activities. For example, in October 2011, we reduced our workforce by approximately 18% in order to reduce expenses and to focus resources primarily on our later-stage development programs for tirasemtiv and omecamtiv mecarbil and certain other research and development programs also directed to muscle biology. These headcount reductions and the cost control measures we have implemented may negatively affect our productivity and limit our research and development activities. We may have difficulty retaining and attracting such personnel as a result of a perceived risk of future workforce reductions. In addition, the implementation of any additional workforce or expense reduction programs may divert the efforts of our management team and other key employees, which could adversely affect our business.

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

We may have growth in our expenditures, the number of our employees and the scope of our operations, in particular with respect to those drug candidates that we elect to develop or commercialize independently or together with a partner. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The physical expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

We currently have no sales or marketing capabilities and, if we are unable to enter into or maintain strategic alliances with marketing partners or to develop our own sales and marketing capabilities, we may not be successful in commercializing our potential drugs.

We currently have no sales, marketing or distribution capabilities. We plan to commercialize drugs that can be effectively marketed and sold in concentrated markets that do not require a large sales force to be competitive. To achieve this goal, we will need to establish our own specialized sales force and marketing organization with technical expertise and supporting distribution capabilities. Developing such an organization is expensive and time-consuming and could delay a product launch. In addition, we may not be able to develop this capacity efficiently, cost-effectively or at all, which could make us unable to commercialize our drugs. If we determine not to market our drugs on our own, we will depend on strategic alliances with third parties, such as Amgen and Astellas, which have established distribution systems and direct sales forces to commercialize them. If we are unable to enter into such arrangements on acceptable terms, we may not be able to successfully commercialize these drugs. To the extent that we are not successful in commercializing any drugs ourselves or through a strategic alliance, our product revenues and business will suffer and our stock price would decrease.

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

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

Risks Related To Our Industry

The regulatory approval process is expensive, time-consuming and uncertain and may prevent our partners or us from obtaining approvals to commercialize some or all of our drug candidates.

The research, testing, manufacturing, selling and marketing of drugs are subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries, and regulations differ from country to country. Neither we nor our partners are permitted to market our potential drugs in the United States until we receive approval of a new drug application ("NDA") from the FDA. Neither we nor our partners have received NDA or other marketing approval for any of our drug candidates.

Obtaining NDA approval is a lengthy, expensive and uncertain process. In addition, failure to comply with FDA and other applicable foreign and U.S. regulatory requirements may subject us to administrative or judicially imposed sanctions. These include warning letters, civil and criminal penalties, injunctions, product seizure or detention, product recalls, total or partial suspension of production, and refusal to approve pending NDAs or supplements to approved NDAs.

Regulatory approval of an NDA or NDA supplement is never guaranteed, and the approval process typically takes several years and is extremely expensive. The FDA and foreign regulatory agencies also have substantial discretion in the drug approval process, and the guidance and advice issued by such agencies is subject to change at any time. Despite the time and efforts exerted, failure can occur at any stage, and we may encounter problems that cause us to abandon clinical trials or to repeat or perform additional preclinical testing and clinical trials. The number and focus of preclinical studies and clinical trials that will be required for approval by the FDA and foreign regulatory agencies varies depending on the drug candidate, the disease or condition that the drug candidate is designed to address, and the regulations applicable to any particular drug candidate. In addition, the FDA may require that a proposed Risk Evaluation and Mitigation Strategy, also known as a REMS, be submitted as part of an NDA if the FDA determines that it is necessary to ensure that the benefits of the drug outweigh its risks. The FDA and foreign regulatory agencies can delay, limit or deny approval of a drug candidate for many reasons, including, but not limited to:

- they might determine that a drug candidate is not safe or effective;
- they might not find the data from nonclinical testing and clinical trials sufficient and could request that additional trials be performed;
- they might not approve our, our partner's or the contract manufacturer's processes or facilities; or
- they might change their approval policies or adopt new regulations.

Even if we receive regulatory approval to manufacture and sell a drug in a particular regulatory jurisdiction, other jurisdictions' regulatory authorities may not approve that drug for manufacture and sale. If we or our partners fail to receive and maintain regulatory approval for the sale of any drugs resulting from our drug candidates, it would significantly harm our business and negatively affect our stock price.

If we or our partners receive regulatory approval for our drug candidates, we or they will be subject to ongoing obligations to and continued regulatory review by the FDA and foreign regulatory agencies, and may be subject to additional post-marketing obligations, all of which may result in significant expense and limit commercialization of our potential drugs.

Any regulatory approvals that we or our partners receive for our drug candidates may be subject to limitations on the indicated uses for which the drug may be marketed or require potentially costly post-marketing follow-up studies or compliance with a REMS. In addition, if the FDA or foreign regulatory agencies approves any of our drug candidates, the labeling, packaging, adverse event reporting, storage, advertising, promotion and record-keeping for the drug will be subject to extensive regulatory requirements. The subsequent discovery of previously unknown problems with the drug, including adverse events of unanticipated severity or frequency, or the discovery that adverse events or toxicities observed in preclinical research or clinical trials that were believed to be minor actually constitute much more serious problems, may result in restrictions on the marketing of the drug or withdrawal of the drug from the market.

The FDA and foreign regulatory agencies may change their policies and additional government regulations may be enacted that could prevent or delay regulatory approval of our drug candidates. We cannot predict the likelihood, nature or extent of adverse government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are not able to maintain regulatory compliance, we might not be permitted to market our drugs and our business would suffer.

If physicians and patients do not accept our drugs, we may be unable to generate significant revenue, if any.

Even if our drug candidates obtain regulatory approval, the resulting drugs, if any, may not gain market acceptance among physicians, healthcare payors, patients and the medical community. Even if the clinical safety and efficacy of drugs developed from our drug candidates are established for purposes of approval, physicians may elect not to recommend these drugs for a variety of reasons including, but not limited to:

- introduction of competitive drugs to the market;
- clinical safety and efficacy of alternative drugs or treatments;
- cost-effectiveness;
- availability of coverage and reimbursement from health maintenance organizations and other third-party payors;
- convenience and ease of administration;
- prevalence and severity of adverse events;
- other potential disadvantages relative to alternative treatment methods; or
- insufficient marketing and distribution support.

If our drugs fail to achieve market acceptance, we may not be able to generate significant revenue and our business would suffer.

The coverage, reimbursement status and pricing of newly approved drugs is uncertain and failure to obtain adequate coverage and reimbursement could limit our ability to market any drugs we may develop and decrease our ability to generate revenue.

Even if one or more of our drug candidates is approved for sale, the commercial success of our drugs in both domestic and international markets will be substantially dependent on whether third-party coverage and reimbursement is available for our drugs by the medical profession for use by their patients, which is highly uncertain. Medicare, Medicaid, health maintenance organizations and other third-party payors are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement of new drugs. As a result, they may not cover or provide adequate payment for our drugs. They may not view our drugs as cost-effective and reimbursement may not be available to consumers or may be insufficient to allow our drugs to be marketed on a competitive basis. If we are unable to obtain adequate coverage and reimbursement for our drugs, our ability to generate revenue will be adversely affected. Likewise, current and future legislative or regulatory efforts to control or reduce healthcare costs or reform government healthcare programs, such as the Patient Protection Affordable Care Act and the Health Care and Education Reconciliation Act of 2010, could result in lower prices or rejection of coverage and reimbursement for our potential drugs. Changes in coverage and reimbursement policies or healthcare cost containment initiatives that limit or restrict reimbursement for any of our drug candidates that are approved could cause our potential future revenues to decline.

We may be subject to costly product liability or other liability claims and may not be able to obtain adequate insurance.

The use of our drug candidates in clinical trials may result in adverse events. We cannot predict all the possible harms or adverse events that may result from our clinical trials. We currently maintain limited product liability insurance. We may not have sufficient resources to pay for any liabilities resulting from a personal injury or other claim excluded from, or beyond the limit of, our insurance coverage. Our insurance does not cover third parties' negligence or malpractice, and our clinical investigators and sites may have inadequate insurance or none at all. In addition, in order to conduct clinical trials or otherwise carry out our business, we may have to contractually assume liabilities for which we may not be insured. If we are unable to look to our own or a third party's insurance to pay claims against us, we may have to pay any arising costs and damages ourselves, which may be substantial.

In addition, if we commercially launch drugs based on our drug candidates, we will face even greater exposure to product liability claims. This risk exists even with respect to those drugs that are approved for commercial sale by the FDA and foreign regulatory agencies and manufactured in licensed and regulated facilities. We intend to secure additional limited product liability insurance coverage for drugs that we commercialize, but may not be able to obtain such insurance on acceptable terms with adequate coverage, or at reasonable costs. Even if we are ultimately successful in product liability litigation, the litigation would consume substantial amounts of our financial and managerial resources and may create adverse publicity, all of which would impair our ability to generate sales of the affected product and our other potential drugs. Moreover, product recalls may be issued at our discretion or at the direction of the FDA and foreign regulatory agencies, other governmental agencies or other companies having regulatory control for drug sales. Product recalls are generally expensive and often have an adverse effect on the reputation of the drugs being recalled and of the drug's developer or manufacturer.

We may be required to indemnify third parties against damages and other liabilities arising out of our development, commercialization and other business activities, which could be costly and time-consuming and distract management. If third parties that have agreed to indemnify us against damages and other liabilities arising from their activities do not fulfill their obligations, then we may be held responsible for those damages and other liabilities.

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

Healthcare providers, physicians and third-party payors play a primary role in the recommendation and prescription of any drug candidates for which we may obtain marketing approval. Our arrangements with customers, healthcare providers and professionals and third-party payors may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we develop, and may market, sell and distribute, our products for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations, include, but are not limited to, the following:

- The federal healthcare anti-kickback statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federally funded healthcare programs such as Medicare and Medicaid. This statute has been broadly interpreted to apply to manufacturer arrangements with prescribers, purchasers and formulary managers, among others. Several other countries, including the United Kingdom, have enacted similar anti-kickback, fraud and abuse, and healthcare laws and regulations.
- The federal False Claims Act imposes civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government. The government and qui tam relators have brought False Claims Act actions against pharmaceutical companies on the theory that their practices have caused false claims to be submitted to the government. There is also a separate false claims provision imposing criminal penalties.
- The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program. HIPAA also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information. HIPAA also imposes criminal liability for knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services.
- The federal Physician Sunshine Act requirements under the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010, referred to together as the Affordable Care Act, require manufacturers of drugs, devices, biologics and medical supplies to report to the Department of Health and Human Services information related to payments and other transfers of value made to or at the request of covered recipients, such as physicians and teaching hospitals, and physician ownership and investment interests in such manufacturers. Payments made to physicians and research institutions for clinical trials are included within the ambit of this law.
- Analogous state laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, exclusion from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations. Exclusion, suspension and debarment from government funded healthcare programs would significantly impact our ability to commercialize, sell or distribute any drug. If any of the physicians or other providers or entities with whom we expect to do business are found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

In addition, health care providers in the United States, including research institutions from which we or our partners obtain patient information, are subject to privacy rules under HIPAA and state and local privacy laws. In the European Union, these entities are subject to the Directive 95/46-EC of the European Parliament on the protection of individuals with regard to the processing of personal data and individual European Union member states implementing additional legislation. Other countries have similar privacy legislation. We could face substantial penalties if we knowingly receive individually identifiable health information from a health care provider that has not satisfied the applicable privacy laws. In addition, certain privacy laws and genetic testing laws may apply directly to our operations and/or those of our partners and may impose restrictions on the use and dissemination of individuals' health information and use of biological samples.

Responding to any claims relating to improper handling, storage or disposal of the hazardous chemicals and radioactive and biological materials we use in our business could be time-consuming and costly.

Our research and development processes involve the controlled use of hazardous materials, including chemicals and radioactive and biological materials. Our operations produce hazardous waste products. We cannot eliminate the risk of accidental contamination or discharge and any resultant injury from those materials. Federal, state and local laws and regulations govern the use, manufacture, storage, handling and disposal of hazardous materials. We may be sued for any injury or contamination that results from our or third parties' use of these materials. Compliance with environmental laws and regulations is expensive, and current or future environmental regulations may impair our research, development and production activities.

Our facilities in California are located near an earthquake fault, and an earthquake or other types of natural disasters, catastrophic events or resource shortages could disrupt our operations and adversely affect our results.

All of our facilities and our important documents and records, such as hard and electronic copies of our laboratory books and records for our drug candidates and compounds and our electronic business records, are located in our corporate headquarters at a single location in South San Francisco, California near active earthquake zones. If a natural disaster, such as an earthquake or flood, a catastrophic event such as a disease pandemic or terrorist attack, or a localized extended outage of critical utilities or transportation systems occurs, we could experience a significant business interruption. Our partners and other third parties on which we rely may also be subject to business interruptions from such events. In addition, California from time to time has experienced shortages of water, electric power and natural gas. Future shortages and conservation measures could disrupt our operations and cause expense, thus adversely affecting our business and financial results.

Risks Related To an Investment in Our Securities

We expect that our stock price will fluctuate significantly, and you may not be able to resell your shares at or at or above your investment price.

The stock market, particularly in recent years, has experienced significant volatility, particularly with respect to pharmaceutical, biotechnology and other life sciences company stocks, which often does not relate to the operating performance of the companies represented by the stock. Factors that could cause volatility in the market price of our common stock include, but are not limited to:

- announcements concerning any of the clinical trials for our drug candidates, such as tirasemtiv for the potential treatment of ALS, CK-2127107 for the potential treatment of SMA, COPD, ALS or other indications associated with muscle weakness and omecamtiv mecarbil for the potential treatment of heart failure (including, but not limited to, the timing of initiation or completion of such trials and the results of such trials, and delays or discontinuations of such trials, including delays resulting from slower than expected or suspended patient enrollment or discontinuations resulting from a failure to meet pre-defined clinical end points);
- announcements concerning our strategic alliance with Amgen or Astellas or future strategic alliances;
- failure or delays in entering additional drug candidates into clinical trials;
- failure or discontinuation of any of our research programs;
- issuance of new or changed securities analysts' reports or recommendations;
- failure or delay in establishing new strategic alliances, or the terms of those alliances;
- market conditions in the pharmaceutical, biotechnology and other healthcare-related sectors;
- actual or anticipated fluctuations in our quarterly financial and operating results;
- developments or disputes concerning our intellectual property or other proprietary rights;
- introduction of technological innovations or new products by us or our competitors;
- issues in manufacturing, packaging, labeling and distribution of our drug candidates or drugs;

- market acceptance of our drugs;
- third-party healthcare coverage and reimbursement policies;
- FDA or other U.S. or foreign regulatory actions affecting us or our industry;
- litigation or public concern about the safety of our drug candidates or drugs;
- additions or departures of key personnel;
- substantial sales of our common stock by our existing stockholders, whether or not related to our performance;
- automated trading activity by algorithmic and high-frequency trading programs; and
- volatility in the stock prices of other companies in our industry or in the stock market generally.

These and other external factors may cause the market price and demand for our common stock to fluctuate substantially, 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, 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. Such a lawsuit could also divert our management's time and attention.

If the ownership of our common stock continues to be highly concentrated, it may prevent you and other stockholders from influencing significant corporate decisions and may result in conflicts of interest that could cause our stock price to decline.

As of October 27, 2016, our executive officers, directors and their affiliates beneficially owned or controlled approximately 10.4% of the outstanding shares of our common stock (after giving effect to the exercise of all outstanding vested and unvested options, restricted stock units and warrants). Accordingly, these executive officers, directors and their affiliates, acting as a group, will have substantial influence over the outcome of corporate actions requiring stockholder approval, including the election of directors, any merger, consolidation or sale of all or substantially all of our assets or any other significant corporate transactions. These stockholders may also delay or prevent a change of control of us, even if such a change of control would benefit our other stockholders. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors' perception that conflicts of interest may exist or arise.

Volatility in the stock prices of other companies may contribute to volatility in our stock price.

The stock market in general, and the NASDAQ stock exchanges and the market for technology companies in particular, have experienced significant price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Further, there has been particular volatility in the market prices of securities of early stage and clinical stage life sciences companies. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been instituted. A securities class action suit against us could result in substantial costs, potential liabilities and the diversion of management's attention and resources, and could harm our reputation and business.

Our common stock is thinly traded and there may not be an active, liquid trading market for our common stock.

There is no guarantee that an active trading market for our common stock will be maintained on NASDAQ, or that the volume of trading will be sufficient to allow for timely trades. Investors may not be able to sell their shares quickly or at the latest market price if trading in our stock is not active or if trading volume is limited. In addition, if trading volume in our common stock is limited, trades of relatively small numbers of shares may have a disproportionate effect on the market price of our common stock.

Our stockholders will experience substantial additional dilution if outstanding options or warrants are exercised for common stock.

As of October 27, 2016, there were 4,302,388 shares of common stock issuable upon the exercise of warrants, having a weighted average exercise price of $5.33 per share, 5,192,044 shares of common stock issuable upon the exercise of stock options outstanding, having a weighted average exercise price of $9.26 per share. The exercise of outstanding options or warrants for common stock would be substantially dilutive to the outstanding shares of common stock. Any dilution or potential dilution may cause our stockholders to sell their shares, which would contribute to a downward movement in the stock price of our common stock.

Ownership changes may limit our ability to use our net operating losses and tax credits in the future.

In general, under Section 382 of the Internal Revenue Code ("Section 382"), a corporation that undergoes an 'ownership change' is subject to limitations on its ability to utilize its pre-change net operating losses and tax credits to offset future taxable income. We have performed a Section 382 analysis as of September 30, 2016 and do not believe that we have experienced an ownership change since 2006. A portion of our existing net operating losses and tax credits are subject to limitations arising from previous ownership changes. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 and result in additional limitations. We intend to continue to monitor public filings made by third parties with the SEC to assess whether an ownership change under Section 382 has occurred. Our ability to accurately assess any such ownership change is limited by the timeliness and accuracy of these public filings.

Evolving regulation of corporate governance and public disclosure may result in additional expenses, use of resources and continuing uncertainty.

Changing laws, regulations and standards relating to corporate governance and public disclosure, including the Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and new SEC regulations and NASDAQ Stock Market LLC rules create uncertainty for public companies. We regularly evaluate and monitor developments with respect to new and proposed laws, regulations and standards. We cannot accurately predict or estimate the amount of the additional costs we may incur in connection with complying with such laws, regulations and standards or the timing of these costs. For example, compliance with the internal control requirements of Section 404 of the Sarbanes-Oxley Act has to date required us to commit significant resources to document and test the adequacy of our internal control over financial reporting. We can provide no assurance as to conclusions of management or by our independent registered public accounting firm with respect to the effectiveness of our internal control over financial reporting in the future. In addition, the SEC has adopted regulations that require us to file corporate financial statement information in an interactive data format known as XBRL. We may incur significant costs and need to invest considerable resources to remain in compliance with these regulations.

These new or changed laws, regulations and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to maintain high standards of corporate governance and public disclosure. As a result, we intend to invest the resources necessary to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new or changed laws, regulations and standards differ from the activities intended by regulatory or governing bodies, due to ambiguities related to practice or otherwise, regulatory authorities may initiate legal proceedings against us, which could be costly and time-consuming, and our reputation and business may be harmed.

We have never paid dividends on our capital stock, and we do not anticipate paying any cash dividends in the foreseeable future.

We have paid no cash dividends on any of our classes of capital stock to date and we currently intend to retain our future earnings, if any, to fund the development and growth of our businesses. In addition, the terms of existing or any future debts may preclude us from paying these dividends.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

None.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

A list of exhibits filed with this Quarterly Report on Form 10-Q or incorporated herein by reference is found in the Index to Exhibits immediately following the signature page of this report and is incorporated into this Item 6 by reference.

SIGNATURES

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

Dated: November 3, 2016

CYTOKINETICS, INCORPORATED
(Registrant)

/s/ Robert I. Blum
Robert I. Blum
President and Chief Executive Officer
(Principal Executive Officer)

/s/ Sharon A. Barbari
Sharon A. Barbari
Executive Vice President, Finance and
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT INDEX

Exhibit No.	Exhibit	Incorporated by Reference				Filed Herewith
		Form	File No.	Filing Date	Exh. No.	
3.1	Amended and Restated Certificate of Incorporation.	S-3	333-174869	June 13, 2011	3.1	
3.2	Certificate of Amendment of Amended and Restated Certificate of Incorporation.	10-Q	000-50633	August 4, 2011	3.2	
3.3	Certificate of Amendment of Amended and Restated Certificate of Incorporation.	8-K	000-50633	June 25, 2013	5.1	
3.4	Amended and Restated Bylaws.	S-1	333-112261	April 29, 2004	3.2	
4.1	Specimen Common Stock Certificate.	10-Q	000-50633	May 9, 2007	4.1	
4.2	Registration Rights Agreement, dated as of December 29, 2006, by and between the Company and Amgen Inc.	8-K	000-50633	January 3, 2007	10.7	
4.3	Form of Warrant	10-Q	000-50633	August 6, 2012	4.6	
4.4	Form of Common Stock Warrant and Warrant Certificate	S-3	333-192125	November 6, 2013	4.4	
4.5	Form of Preferred Stock Warrant and Warrant Certificate	S-3	333-192125	November 6, 2013	4.5	
4.6	Form of Common Stock Warrant Issued Pursuant to that certain Loan and Security Agreement, dated as of October 19, 2015, by and among the Company, Oxford Finance LLC and Silicon Valley Bank	10-K	000-50633	March 3, 2016	4.6	
*10.42	Amendment to the Amended and Restated License and Collaboration Agreement between the Company and Astellas Pharma Inc., dated July 27, 2016					X
*10.43	Letter of Agreement by and between the Company and Amgen Inc. and Les Laboratories Servier and Institut de Recherches Internationales Servier, dated August 29, 2016					X
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
32.1	Certifications of the Chief Executive Officer and the Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350) (1).					X
101.INS	XBRL Instance Document.					X
101.SCH	XBRL Taxonomy Extension Schema Document.					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.					X

* Pursuant to a request for confidential treatment, portions of this Exhibit have been redacted from the publicly filed document and have been furnished separately to the Securities and Exchange Commission as requested by Rule 406 under the Securities Act or Rule 24b-2 under the Exchange Act, as applicable.

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

Exhibit 10.42

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

AMENDMENT TO THE AMENDED AND RESTATED LICENSE AND COLLABORATION AGREEMENT

This **AMENDMENT TO THE AMENDED AND RESTATED LICENSE AND COLLABORATION AGREEMENT** (the "**Amendment**") is effective as of July 27, 2016 (the "**Amendment Execution Date**") by and between **Cytokinetics, Inc.**, a corporation organized and existing under the laws of Delaware, having its principal place of business at 280 East Grand Avenue, South San Francisco, CA 94080, USA ("**Cytokinetics**"), and **Astellas Pharma Inc.**, a corporation organized and existing under the laws of Japan, having its registered office at 2-5-1, Nihonbashi-Honcho, Chuo-ku, Tokyo 103-8411, Japan ("**Astellas**"). Astellas and Cytokinetics are referred to in this Amendment individually as a "**Party**" and collectively as the "**Parties**."

RECITALS

A. Cytokinetics is a biopharmaceutical company directed to the research and development of small molecule compounds that modulate muscle function, and owns certain patents and know-how relating to skeletal sarcomere activators;

B. Astellas is a pharmaceutical company working to create and develop novel therapies;

C. Cytokinetics and Astellas are parties to a License and Collaboration Agreement, dated June 21, 2013, as previously (i.e., prior to the Amendment Execution Date) amended and restated, including on December 22, 2014 (the "**2014 Agreement**"), pursuant to which they established a collaboration for the research, development and, if successful, commercialization of pharmaceutical products that contain certain fast skeletal regulatory activators (except for Cytokinetics' clinical development candidate *tirasemtiv* and related molecules) and certain other skeletal sarcomere activators; and

D. Cytokinetics and Astellas now desire to amend the terms and conditions of the 2014 Agreement pertaining to the Parties' research, development and, if successful, commercialization of the products already included in the scope of the 2014 Agreement, in particular by adding ALS as one of the [*] Indications under the 2014 Agreement, and for Cytokinetics to grant Astellas an option to establish a collaboration for the development and, if successful, commercialization of pharmaceutical products that contain *tirasemtiv*.

NOW, THEREFORE, in consideration of the mutual covenants and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Cytokinetics and Astellas agree as follows:

1. ADDITION OF ALS

1.1 ALS as an [*] Indication. Cytokinetics hereby adds ALS to the Collaboration as an [*] Indication with respect to all Collaboration Products under Section [*] of the 2014 Agreement. For avoidance of doubt, "ALS" mentioned above includes the [*], as well as [*] symptoms that appear in the course of the development and progression of ALS in ALS Patients; "ALS Patients" means humans with a diagnosis of [*] ALS (defined as meeting the [*] criteria for a diagnosis of ALS according to the [*] criteria). For clarity, ALS does not include: (i) any [*] Indications under the 2014 Agreement; or (ii) the [*] symptoms in humans other than ALS Patients. The execution of this Amendment shall be deemed to have satisfied Cytokinetics' notice obligation under Section [*] of the 2014 Agreement with respect to [*], and Cytokinetics will not be required to [*] for the [*]. With respect to ALS, [*] Section [*] of the 2014 Agreement shall [*].

1.2 Development, Medical Affairs, and Commercialization of the Lead Product and/or any Other Collaboration Product in ALS.

(a) Update to Development Plan. In connection with the addition of ALS as an [*] Indication, subject to Section 1.2(b) of this Amendment, the Development Program following the Amendment Effective Date shall include preparatory activities (e.g., [*]) to enable the Initiation and conduct of a Phase 2 Clinical Trial of the Lead Product for the potential treatment of ALS in 2017. Such additional activities shall be conducted in accordance with the clinical trial synopsis and budget included in the update to the Development Plan agreed by the Parties and attached hereto as Exhibit A. The attachment of the updated Development Plan to this Amendment shall be deemed to have satisfied the Parties' (including the JDC's) obligations to update the Development Plan under Section [*] of the 2014 Agreement in connection with the addition of ALS as an [*] Indication. Subsequent updates of the portion of the Development Plan specific to the Lead Product and/or any Other Collaboration Product for ALS and any amendment thereto shall be generated collaboratively by the Parties and agreed by the JDC. Notwithstanding [*] of the 2014 Agreement, [*] will conduct certain [*], including [*] and [*] for the Lead Product and/or any Other Collaboration Product for [*] Indications, all as specified in and in accordance with the updated Development Plan. The JMC will discuss the appropriate timing for the transition of [*]. For clarity, [*] for [*] in the Development Plan with respect to the Lead Product and/or any Other Collaboration Product for ALS in accordance with [*].

(b) Development and Regulatory Responsibility. Notwithstanding Sections 6.3(a), 6.3(b)(iv), 6.3(d), 7.1(a) and 7.1(c) of the 2014 Agreement, subject to Astellas' primary responsibility set forth in this Section 1.2(b), the JDC shall provide each Party a meaningful role in the Development of the Lead Compound and Lead Product and/or any Other Collaboration Product for ALS in the Development Plan, including operational responsibilities for the shared conduct of clinical trials (including the Pivotal Registration Study or registration program) and regulatory affairs to leverage Cytokinetics capabilities and enable Astellas to build its capabilities. In accordance with the foregoing and based on the Development Plan agreed by the JDC, Astellas shall be primarily responsible for the strategy/conduct of the Development Program and regulatory activities relating thereto to generate the Registration Dossier for the Lead Product and/or any Other Collaboration Product for ALS as follows:

(i) Cytokinetics shall conduct the Phase 2 Clinical Trial for the Lead Product and/or any Other Collaboration Product in ALS in the Shared Territory, and the Parties plan to Initiate the initial Phase 2 Clinical Trial for the Lead Product in [*] 2017;

(ii) Astellas shall be primarily responsible for the conduct of other Development activities, including the Pivotal Registration Study and regulatory activities, including: [*] generating [*] the Registration Dossier; [*] in the Shared Territory;

(iii) Astellas shall be responsible for all other Development of the Lead Product and/or any Other Collaboration Product for ALS worldwide including development and regulatory activities in Japan, as well as related CMC Activities;

(iv) in connection with the foregoing, the JDC may allocate specific development and/or regulatory activities for the Development of the Lead Product and/or any Other Collaboration Product for ALS to Astellas or Cytokinetics, taking into consideration each Party's relevant expertise, capabilities, resources, infrastructure, and relationships and how they can be leveraged in the best interests of the Collaboration; and

(v) to the extent the allocation of activities and responsibilities between the Parties with respect to the Development of the Lead Product and/or any Other Collaboration Product in ALS under Section 6.3 of the 2014 Agreement and Sections 1.2(a) and (b) of this Amendment are inconsistent, then such allocation described under Sections 1.2(a) and (b) of this Amendment shall control.

(c) [*] for ALS. Notwithstanding Section [*] of the 2014 Agreement, [*] shall [*] for the Lead Product or any Other Collaboration Product in ALS. If [*] the Lead Product and/or any Other Collaboration Product in ALS, Cytokinetics will have the right to [*] Indication Development Work for the Lead Product and/or any such Other Collaboration Product for ALS, in which event the Parties' respective rights and obligations for the Lead Product and any such Other Collaboration Product in ALS shall be governed by the terms and conditions under the 2014 Agreement (in the form prior to this Amendment) that are applicable to an [*] Indication in the event [*] for such [*] Indication. For clarity, such Cytokinetics' right mentioned in Section 1.2(c) will not prevent Astellas from terminating the 2014 Agreement for its convenience pursuant to Section 14.2(a) of the 2014 Agreement [*].

(d) Medical Affairs for Lead Product and/or any Other Collaboration Product in ALS. Notwithstanding anything to the contrary in 2014 Agreement, Astellas shall lead and be primarily responsible for the Medical Affairs activities of the Lead Product and/or any Other Collaboration Product in ALS. The Medical Affairs activities of the Parties for the Lead Product and/or any Other Collaboration Product in ALS shall be governed by the terms and conditions governing the Medical Affairs activities of the Parties for an [*] Indication, provided that: (i) Section 10.5(b) of the 2014 Agreement shall not apply; (ii) the decision making for the Medical Affairs activities shall be governed by Section 1.2(f) of this Amendment; and (iii) the portion of the Medical Affairs Plan specific to the Lead Product and/or any Other Collaboration Product for ALS and any amendment thereto shall be generated collaboratively by the Parties and agreed by the JMAC, with the JMAC using Diligent Efforts to leverage and utilize each Party's relevant expertise, capabilities, resources, infrastructure, systems and relationships in the best interests of the Collaboration under the Medical Affairs Plan.

(e) Commercialization of Lead Product and/or any Other Collaboration Product in ALS. Notwithstanding anything to the contrary in 2014 Agreement, Astellas shall lead and be primarily responsible for the Commercialization of the Lead Product and/or any Other Collaboration Product in ALS. The Commercialization of the Lead Product and/or any Other Collaboration Product in ALS shall be governed by the terms and conditions governing the Commercialization of the Lead Product and/or any Other Collaboration Product for an [*] Indication, provided that: (i) Sections 9.1(b), 9.1(c), 9.3(d)(iii), and 9.3(e) of the 2014 Agreement shall not apply; (ii) the decision making for the Commercialization activities shall be governed by Section 1.2(f) of this Amendment; and (iii) the portion of the Commercialization Plan specific to the Lead Product and/or any Other Collaboration Product for ALS and any amendment thereto shall be generated collaboratively by the Parties and agreed by the JCC, with the JCC using Diligent Efforts to leverage and utilize each Party's relevant expertise, capabilities, resources, infrastructure, systems and relationships in the best interests of the Collaboration under the Commercialization Plan. In that regard, Cytokinetics shall consult with Astellas in the course of developing any Cytokinetics Co-Promotion Recommendation pursuant to Section 9.6(b)(ii) of the 2014 Agreement. For clarity, Cytokinetics may conduct, [*], market research and other strategic and tactical activities and share findings relating thereto.

(f) Decision Making Authority. Notwithstanding anything to the contrary in the 2014 Agreement, on matters regarding ALS as an [*] Indication for the Lead Compound, Lead Product and/or any Other Collaboration Product, the JDC, JMAC, JMC and/or JCC, as applicable, shall make decisions by consensus. Any disagreement that the JDC, JMAC, JMC and/or JCC cannot resolve on such matters shall be escalated to the JSC in accordance with the process in Section 2.13 of the 2014 Agreement. If the JSC does not reach agreement pursuant to Section 2.13 of the 2014 Agreement, the matter shall be discussed by the Parties' CEOs, subject to Astellas' CEO's final decision making authority. On matters regarding ALS as an [*] Indication for the Lead Compound, Lead Product and/or any Other Collaboration Product, Astellas and Cytokinetics shall make decisions and act in accordance with the following principles (the "**Guiding Principles**"):

(i) Each Party shall use Diligent Efforts to leverage the other Party's relevant expertise, capabilities, resources, infrastructure and relationships in the best interests of the Collaboration;

(ii) The Collaboration shall initially rely on Cytokinetics' development, regulatory, medical affairs and commercial planning expertise and capabilities that are established specific to ALS while leveraging Astellas' broader capabilities and also enable the establishment of Astellas' development, regulatory, medical affairs and commercial infrastructure and expertise in ALS over time throughout the territory (i.e. Shared Territory and Astellas Territory); and

(iii) The Collaboration shall seek to expand the opportunity in ALS using the Lead Product and/or Other Collaboration Products based on preceding clinical and regulatory experience of Tirasemtiv.

1.3 Amended Financial Terms for the Lead Product under the 2014 Agreement.

(a) Upfront Amendment Payment. Within thirty (30) days after the Amendment Effective Date, Astellas will pay Cytokinetics the non-refundable, non-creditable amendment payment in the amount of thirty-five million dollars ($35,000,000).

(b) Phase 2 Initiation Milestone Payment. Within thirty (30) days after the Amendment Effective Date, Astellas will pay Cytokinetics the non-refundable, non-creditable milestone payment for the Lead Compound/Lead Product in the amount of fifteen million dollars ($15,000,000) as if the first Phase 2 Clinical Trial for ALS as an [*] Indication has been Initiated. Upon the Initiation of such first Phase 2 Clinical Trial for ALS as an [*] Indication, Astellas will not be required to make the milestone payment triggered by such Initiation.

(c) Development Costs for the Lead Product in [*] Indications.

(i) ALS Phase 2 Development. Notwithstanding Section 6.4(d) of the 2014 Agreement, the [*] Indication Development Costs incurred by or on behalf of either Party directly pertaining to the Development activities for the Lead Product in ALS prior to Initiation of the Pivotal Registration Study (including the Manufacture of clinical trial supply therefor) (the "**ALS Phase 2 Development**") shall be allocated in accordance with Section 6.4(a) of the 2014 Agreement, with Astellas being solely responsible for all such Development Costs, provided that, prior to the completion of such ALS Phase 2 Development of the Lead Product, Cytokinetics shall have the right, but not the obligation, to elect to co-fund any portion of the [*] Indication Development Costs for such ALS Phase 2 Development equally with Astellas, and any such co-funding election by Cytokinetics, at Cytokinetics' sole discretion, shall be reflected in an updated Development Plan, which shall identify the portion of the [*] Indication Development Costs (and the Development activities corresponding thereto) to be co-funded by Cytokinetics. The portion of the ALS Phase 2 Development solely funded by Astellas within the definition of [*] Indication Development Costs (and excluding costs for which Astellas is solely responsible for country-specific development activities for the Astellas Territory) shall be deemed "**Astellas Solely Funded Costs**".

(ii) Payment Adjustment. In recognition of Astellas' sole funding of the Astellas Solely Funded Costs, Astellas shall have the right to: (i) reduce any milestone payment due for the Lead Product and/or any Other Collaboration Product to Cytokinetics by [*], provided that such milestone payment has a due date that is after the completion of the ALS Phase 2 Development; and/or (ii) reduce each of the royalty rates for the Lead Product and/or any Other Collaboration Product described under Sections 11.7(a)[*] of the 2014 Agreement by [*], subject to other royalty adjustment mechanisms set forth in the 2014 Agreement, until the aggregate payment reduction by Astellas to Cytokinetics under subsection (i) and/or (ii) reaches the total amount of the Astellas Solely Funded Costs. For example, if Astellas Solely Funded Costs are twenty-five million dollars ($25,000,000), then the maximum amount of payment adjustment under this Section 1.3(c)(ii) shall be twenty-five million dollars ($25,000,000).

(iii) Other Development. Except as set forth in Sections 1.3(c)(i) and (ii) of this Amendment, all other [*] Indication Development Costs incurred by or on behalf of either Party (i.e., in connection with the other Development of the Lead Product in [*] Indications and/or any Development of any Other Collaboration Product in [*] Indications) shall be shared in accordance with Section 6.4(d) of the 2014 Agreement, provided that, in the event any Other Collaboration Product is [*], then: (A) Sections 1.2(a) shall apply to such Other Collaboration Product as if it were the Lead Product, provided that the [*] for such Other Collaboration Product shall be determined by the JDC; and (B) Section 1.3(c) shall apply to such Other Collaboration Product as if it were the Lead Product unless and until (1) Astellas has [*], or (2) Astellas has [*], whichever is earlier.

(iv) Deferral Option. During the period prior to [*] of this Amendment, Cytokinetics may elect to defer its co-funding obligations of [*] Development Costs under Section [*] of the 2014 Agreement with [*] prior notice to Astellas, provided that (A) Cytokinetics cannot defer [*] at any given time; and (B) Cytokinetics cannot defer [*] by more than eighteen (18) months from the date such payment would have been due but for such deferral. Such deferral is not intended to be [*] to continue to fulfill its obligations. If Cytokinetics defers its co-funding obligation for a portion of the [*] Development Costs, Astellas will be solely responsible for such portion of the [*] Development Costs. If Cytokinetics defers any such co-funding payment obligation in connection with the Development activities with respect to a particular Collaboration Product (i.e., the Lead Product or any Other Collaboration Product) and fails to make such deferred payment when due, then each of the royalty rates for such Collaboration Product described under Sections 11.7(a)[*] of the 2014 Agreement shall be reduced by [*], subject to other royalty adjustment mechanisms set forth in the 2014 Agreement.

2. GRANT OF OPTION WITH RESPECT TO *TIRASEMTIV*

2.1 Defined Terms.

(a) "***tirasemtiv* Astellas Territory**" means worldwide excluding the Cytokinetics Territory.

(b) "***tirasemtiv* Cytokinetics Territory**" means the U.S., EU, Canada, Switzerland, Liechtenstein, Turkey, Israel, Norway, Iceland, Andorra, Monaco, San Marino and the Vatican.

(c) "**Deferred Data Package**" means the approval letter for the *tirasemtiv* Product from the FDA (including any accelerated or conditional approval), in the event: (i) Cytokinetics receives the approval letter for the *tirasemtiv* Product from the EMA before it receives the approval letter for the *tirasemtiv* Product from the FDA (in each case including accelerated or conditional approval); and (ii) Astellas elects not to exercise the Option after its receipt of the Late Data Package from Cytokinetics consisting of such approval letter from the EMA.

(d) "**Deferred Decision Date**" means the date that is [*] days after Astellas' receipt of the Deferred Data Package.

(e) "**Early Data Package**" means the analyses pre-specified in the statistical analysis plan for VITALITY-ALS.

(f) "**Early Decision Date**" means the date that is [*] days after Astellas' receipt of the Early Data Package.

(g) "**Late Data Package**" means the first approval letter for the *tirasemtiv* Product from the FDA or EMA (including accelerated or conditional approval), whichever is earlier.

(h) "**Late Decision Date**" means the date that is [*] days after Astellas' receipt of the Late Data Package.

(i) "**Material Contracts**" means the agreements listed in Exhibit B.

(j) "**Option Asset**" means all of Cytokinetics' and its Affiliates' right, title and interest in and to:

(1) the *tirasemtiv* Collaboration Intellectual Property;

(2) the *tirasemtiv* Collaboration Know-How;

(3) the Option IP; and

(4) the regulatory approval(s) necessary for conducting the VITALITY-ALS.

(k) "**Option Period**" means the time period commencing on the Amendment Effective Date and ending on the later of the (A) Late Decision Date, or (B) if applicable, the Deferred Decision Date, unless in each case earlier terminated in accordance with Section 2.5(d).

(l) "**Regulatory Approval**" is defined in Section 3.5 of this Amendment.

(m) "**Shared Development Costs**" means the [*] incurred by or on account of Cytokinetics in performing the Cytokinetics Development Activities under the Global Development Plan, during the time period that commences on the Early Decision Date, and ends on the effective date of the *tirasemtiv* Agreement in the event Astellas exercises the Option.

(n) "***tirasemtiv* Field**" means the prevention, treatment and/or amelioration of diseases and conditions in humans, including, but not limited to, ALS and other Retained Indications.

(o) "***tirasemtiv* Agreement**" means the agreement in the form attached to this Amendment as Exhibit C, which sets forth the terms and conditions under which the Parties will collaborate on the development, manufacture and commercialization of the *tirasemtiv* Product in the event Astellas exercises its Option.

(p) "***tirasemtiv* FTE Rate**" means an initial rate of [*] per FTE per year, which shall apply through [*]. Thereafter, the *tirasemtiv* FTE Rate shall be changed annually on a calendar year basis to reflect any year-to-year percentage increase or decrease (as the case may be) in the Consumer Price Index for [*], as published by the U.S. Department of Labor, Bureau of Labor Statistics ("**CPI**") (based on the change in the CPI from the most recent index available as of the Effective Date to the most recent index available as of the date of the calculation of such revised *tirasemtiv* FTE Rate).

(q) "***tirasemtiv* Collaboration Intellectual Property**" means any information and materials, including discoveries, improvements, modifications, processes, methods, assay, designs, protocols, formulas, data, inventions, algorithms, forecasts, profiles, strategies, plans, results, coordinates for compound/apo protein structures, expression constructs, know-how and trade secrets, patentable or otherwise, that is discovered, generated, conceived and/or reduced to practice by or on behalf of either Party (including its Affiliates, employees, agents and contractors), whether solely or jointly, as a result of: (a) any and all research activities for *tirasemtiv* performed by Cytokinetics and/or (b) the performance of its activities under the Global Development Plan (as defined below) [*], in each case including all rights, title and interest in and to the intellectual property rights therein and thereto.

(r) "***tirasemtiv* Collaboration Know-How**" means know-how that is within the *tirasemtiv* Collaboration Intellectual Property.

(s) "***tirasemtiv* Product**" means any pharmaceutical product containing Tirasemtiv (including any [*] thereof).

(t) "**VITALITY-ALS**" means the multi-national, randomized, double-blind, placebo-controlled, Phase 3 Clinical Trial being conducted by Cytokinetics as of the Amendment Execution Date for the *tirasemtiv* Product in ALS.

2.2 Grant of the Option. Subject to the terms and conditions of this Article 2 of this Amendment, effective during the Option Period, Cytokinetics hereby grants Astellas an exclusive option to obtain the right to collaboratively develop and commercialize all *tirasemtiv* Products in the *tirasemtiv* Field in accordance with the terms and conditions set forth in the *tirasemtiv* Agreement (the "**Option**"), and Astellas shall have the right (but not the obligation) to exercise such Option in accordance with Section 2.5.

2.3 Development of the *tirasemtiv* Product during the Option Period.

(a) Development by the Parties. After the Amendment Effective Date and during the Option Period, Cytokinetics shall conduct the VITALITY-ALS and any additional development to support the Regulatory Approval of the *tirasemtiv* Product in ALS by the FDA and EMA (the "**Cytokinetics Global Development Activities**") and to support the country-specific Regulatory Approvals of the *tirasemtiv* Product in ALS in the *tirasemtiv* Cytokinetics Territory (the "**Cytokinetics Country-Specific Development Activities**"). The Cytokinetics Global Development Activities and Cytokinetics Country-Specific Development Activities may be referred to collectively as the "**Cytokinetics Development Activities**". Cytokinetics shall have the right, but not the obligation, to conduct additional development to support country-specific Regulatory Approvals for the *tirasemtiv* Product in ALS in the *tirasemtiv* Astellas Territory, in reasonable consultation with Astellas.

(b) Global Development Plan. Cytokinetics will conduct the Cytokinetics Development Activities during the Option Period in accordance with a global development plan (the "**Global Development Plan**"), for which Cytokinetics will have final decision making authority. The Global Development Plan existing as of the Amendment Execution Date is attached to this Amendment as Exhibit D. Cytokinetics shall prepare an updated Global Development Plan and shall provide Astellas with such updated Global Development Plan prepared by Cytokinetics concurrent with Cytokinetics' delivery of the Early Data Package and Late Data Package (if applicable) to Astellas.

(c) Progress Updates. During the Option Period, Cytokinetics shall provide Astellas with updates of the Cytokinetics Development Activities, as well as related regulatory, medical affairs and commercialization planning activities and any material updates on the timing of events that may trigger an obligation on Astellas to make a milestone payment or exercise its Option. Cytokinetics will provide Astellas with materials, documents and data (in summary form) pertaining to the Cytokinetics Development Activities that are in Cytokinetics' possession and under the control of Cytokinetics in a timely manner, at least [*] in connection with the meetings of the JDC under the 2014 Agreement, or as soon as practicable after such time period. For clarity, such related materials, documents and data summaries will include analyses of the placebo data from the EMPOWER study, as well as updates on Cytokinetics' activities related to the ALS Association initiatives for ALS guidance and guidelines.

(i) In addition, after Cytokinetics delivers to Astellas the Early Data Package, Astellas shall have the right to review the data set and analyses for VITALITY-ALS at Cytokinetics, upon Astellas' reasonable request and at a time mutually agreed by the Parties.

(ii) After Cytokinetics delivers to Astellas the Late Data Package and/or the Deferred Data Package (if applicable), Astellas shall have the right to review related Regulatory Materials at Cytokinetics to the extent not previously not provided to Astellas, upon Astellas' reasonable request and at a time mutually agreed by the Parties.

(d) Development Costs During Option Period. Cytokinetics shall solely bear all internal costs (calculated at the *tirasemtiv* FTE Rate) and out-of-pocket costs incurred by Cytokinetics in performing the activities under the Global Development Plan during the period commencing on June 1, 2016 through the end of the Option Period (subject to true up payment from Astellas under Section 2.7(b)(ii) below and [*]), but Astellas is required to compensate Cytokinetics for any Astellas Country-Specific Activities conducted by Cytokinetics during the Option Period, as set forth in Section 2.7(b)(iii) of this Amendment.

(e) No Obligations for Alternative Product. During the Option Period, Cytokinetics shall have the right, but not the obligation, to conduct and fund the Development of any *tirasemtiv* Product in a different formulation and/or form from the *tirasemtiv* Product that is being Developed by Cytokinetics as of the Amendment Execution Date.

2.4 Preservation of the Option Assets during the Option Period.

(a) **The *tirasemtiv* Collaboration Intellectual Property and Option IP**. During the Option Period, Cytokinetics shall not abandon, cease prosecution on, fail to maintain, or fail to pay any fees or expenses in connection with, any *tirasemtiv* Collaboration Intellectual Property and Option IP, except in the ordinary course of business in connection with patent filing, prosecution and maintenance.

(b) **Material Contract**. During the Option Period, Cytokinetics shall perform in all material respects all obligations under each Material Contract and shall not waive, release or assign any rights or claims under, fail to take a required action under, permit the lapse of or default under, or modify, amend or terminate any Material Contract in a manner that would materially adversely affect Astellas' rights under this Amendment.

(c) **No Grant of Rights to Third Party**. During the Option Period, Cytokinetics shall not enter into any written agreement with, give any written binding commitment to or grant any written option right to a Third Party to effect the out-licensing, sale, transfer or other disposition of any part of any of Cytokinetics' right, title or interest in *tirasemtiv* Product, or any of the Option Asset in a manner that would grant any Third Party the right to file for Regulatory Approval for or commercialize the *tirasemtiv* Product.

2.5 Exercise of the Option.

(a) Early Option Exercise. Astellas shall have the right, but not obligation, to exercise its Option on or prior to the Early Decision Date by providing Cytokinetics with written notification of such Option exercise and paying Cytokinetics the Early Option Fee in accordance with Section 2.7(b)(i)(1) of this Amendment (the "**Early Option Exercise**"). Upon Cytokinetics' receipt of both such written notification and payment, Astellas' exercise of the Option shall be deemed effective and the *tirasemtiv* Agreement shall become effective automatically.

(b) Late Option Exercise. Astellas shall have the right, but not the obligation, to exercise its Option after the Early Decision Date but on or prior to the Late Decision Date by providing Cytokinetics with written notification of such Option exercise and paying Cytokinetics the Late Option Fee in accordance with Section 2.7(b)(i)(2) of this Amendment (the "**Late Option Exercise**"), provided that, in the event Cytokinetics receives the approval letter for the *tirasemtiv* Product from the EMA before it receives the approval letter for the *tirasemtiv* Product from the FDA, then Astellas shall have the right to defer its Option exercise in accordance with Section 2.5(c). Upon Cytokinetics' receipt of both such written notification and payment, Astellas' exercise of the Option shall be deemed effective and the *tirasemtiv* Agreement shall become effective automatically.

(c) Deferred Option Exercise. In the event Astellas defers its option exercise in accordance with Section 2.5(b), Astellas shall have the right, but not the obligation, to exercise its Option after the Late Decision Date but on or prior to the Deferred Decision Date by providing Cytokinetics with written notification of such option exercise and paying Cytokinetics the Deferred Option Fee in accordance with Section 2.7(b)(i)(3) of this Amendment (the "**Deferred Option Exercise**"). Upon Cytokinetics' receipt of both such written notification and payment, Astellas' exercise of the Option shall be deemed effective and the *tirasemtiv* Agreement shall become effective automatically.

(d) Early Termination of Option Period. The Option Period may be earlier terminated as follows:

(i) In the event that: (A) Astellas does not effectuate the Early Option Exercise; and (B) Cytokinetics decides to [*], then Cytokinetics shall provide Astellas with written notification of such decision to [*]. Astellas shall have the right to indicate its interest to exercise its Option within [*] days after receiving such notification from Cytokinetics by providing Cytokinetics with written notification of such interest. In the event Cytokinetics agrees to Astellas' exercise of the Option, then Cytokinetics shall notify Astellas in writing and Astellas shall be deemed to have exercised its Option upon paying Cytokinetics, within [*] days after receiving such notification of agreement from Cytokinetics: (1) [*] if such option exercise is based on [*]; or, as the case may be, (2) [*] if Cytokinetics has provided to Astellas [*] at the time Astellas exercises such Option. If Astellas does not indicate such interest within such [*] period, or if Cytokinetics does not agree to such Option exercise, or if Astellas does not make the payment within the [*] day period after receiving Cytokinetics' agreement, then the Option Period shall terminate and the Option shall be of no further effect. If Astellas so exercises such Option in accordance with this Section 2.5(d)(i), then upon Cytokinetics' receipt of both such written notification and payment, Astellas' exercise of the Option shall be deemed effective and the *tirasemtiv* Agreement shall become effective automatically and [*] shall be included and deemed as the *tirasemtiv* Astellas Territory.

(ii) In the event that: (A) Astellas does not effectuate the Early Option Exercise; and (B) Astellas is not using Diligent Efforts to Develop the Lead Product or any Other Collaboration Product in ALS as an [*] Indication under the 2014 Agreement (other than for reasons of safety), then Cytokinetics shall have the right to terminate the Option Period upon written notification to Astellas. If the Parties do not agree whether Astellas is using such Diligent Efforts, and the matter remains unresolved after escalation to the JSC, the dispute will be resolved in accordance with Section 17.6(b) of the 2014 Agreement.

(iii) The Parties will coordinate the content and timing of public disclosures (e.g., press releases and, for Cytokinetics, SEC filings) in connection with the exercise of the Option or expiration or termination of the Option.

2.6 Termination or Expiration of Option. In the event that the Option Period expires or is terminated without the *tirasemtiv* Agreement becoming effective, then:

(a) the Option shall expire and Astellas shall have not have any right to the *tirasemtiv* Product or Option IP (as defined below); and

(b) notwithstanding Article 12 (Intellectual Property Rights) of the 2014 Agreement, all data, results, material, information and Know-How generated during the Option Period under the Global Development Plan that pertain to the composition or formulation of, or the method of making or using, any *tirasemtiv* Product, and any Patent Rights claiming any of the foregoing (collectively, "**Option IP**") shall be solely owned by Cytokinetics and excluded from the *tirasemtiv* Collaboration Intellectual Property, and Astellas hereby assigns (effective only upon the expiration or termination of the Option Period) to Cytokinetics all of Astellas' right, title and interest in and to the Option IP. To the extent any such Option IP also relates to the formulation of, or the method of making or using, the Lead Product, Other Collaboration Product and/or any other Collaboration Product under the 2014 Agreement, such Option IP shall be deemed included in the scope of Cytokinetics Technology under the 2014 Agreement and included in the licenses to Astellas under the 2014 Agreement.

2.7 Financial Terms.

(a) Upfront Payments. Within thirty (30) days after the Amendment Effective Date, Astellas shall pay to Cytokinetics a one-time, non-refundable, non-creditable option fee in the amount of fifteen million dollars ($15,000,000) for the grant of the Option under Section 2.2 of this Amendment.

(b) Option Exercise Fee and Development Costs True Up.

(i) Option Exercise Fee.

(1) Early Option Fee. In the event Astellas effectuates the Early Option Exercise, Astellas shall pay Cytokinetics a non-refundable, non-creditable option exercise fee in the amount of twenty-five million dollars ($25,000,000) at the time of the Option exercise (the "**Early Option Fee**").

(2) Late Option Fee. In the event Astellas effectuates the Late Option Exercise, Astellas shall pay Cytokinetics a non-refundable, non-creditable option exercise fee in the amount of eighty million dollars ($80,000,000) (the "**Late Option Fee**") as follows: (A) in a one-time, lump sum payment at the time of the Option exercise in the event Astellas exercises such Option after receipt of the approval letter from the FDA; or, as the case may be, (B) in the event Astellas exercises such Option after the receipt of the approval letter from the EMA but before the approval letter from the FDA, [*] at the time of the Option exercise and [*] within thirty (30) days after the receipt of the approval letter from the FDA.

(3) Deferred Option Fee. In the event Astellas effectuates the Deferred Option Exercise, Astellas shall pay Cytokinetics a non-refundable, non-creditable option exercise fee in the amount of eighty million dollars ($80,000,000) in a one-time, lump sum payment at the time of the Option exercise (the "**Deferred Option Fee**").

(ii) Development Cost True Up.

(1) In the event Astellas effectuates the Late Option Exercise, Astellas shall pay to Cytokinetics [*] of the Shared Development Costs [*]. Cytokinetics shall issue an invoice to Astellas for such payment at any time after such Option exercise becomes effective, and Astellas shall pay such invoice within thirty (30) days after receiving such invoice.

(2) In the event Astellas effectuates the Deferred Option Exercise, Astellas shall pay to Cytokinetics [*] of the Shared Development Costs [*]. Cytokinetics shall issue an invoice to Astellas for such payment at any time after such Option exercise becomes effective, and Astellas shall pay such invoice within thirty (30) days after receiving such invoice.

(iii) Development Costs for Astellas Country-Specific Activities. In the event Astellas exercises the Option, Astellas shall reimburse Cytokinetics [*] of the [*] costs incurred by or on account of Cytokinetics in performing any Astellas Country-Specific Activities during the time period that commences on June 1, 2016 and ends on the effective date of the *tirasemtiv* Agreement. Cytokinetics shall issue an invoice to Astellas for such payment at any time after the Option exercise becomes effective, and Astellas shall pay such invoice within thirty (30) days after receiving such invoice.

(c) CY 4033 Study Milestone Payment. In the event Initiation of the open label extension study for the *tirasemtiv* Product described in the Development Plan (the "**CY 4033 Study**") occurs prior to Astellas' exercise of the Option, Astellas shall pay to Cytokinetics a non-refundable, non-creditable payment in the amount of thirty million dollars ($30,000,000) upon Astellas' exercise of the Option, unless Astellas had previously made the CY 4033 Early Milestone Payment described below. If Initiation of the CY 4033 Study occurs prior to Astellas' exercise of the Option, Cytokinetics shall give written notice of such Initiation to Astellas within five (5) days after such Initiation occurs (the **"CY 4033 Notice"**). Astellas shall have a one-time option to make a non-refundable, non-creditable payment to Cytokinetics of fifteen million dollars ($15,000,000) within thirty (30) days following receipt of the CY 4033 Notice (such payment, the **"CY 4033 Early Milestone Payment"**). If Astellas makes the CY 4033 Early Milestone Payment, then Astellas shall be relieved of any further milestone payment obligation in respect of the CY 4033 Study under this Section 2.7(c). If Initiation of the CY 4033 Study occurs after Astellas' exercise of the Option, Cytokinetics shall issue an invoice following Initiation of the CY 4033 Study for Astellas' payment of fifteen million dollars ($15,000,000), and Astellas shall make such payment within thirty (30) days after Astellas' receipt from Cytokinetics of such invoice.

(d) Potential Adjustment of Financial Terms for the Lead Product and/or any Other Collaboration Product. In the event Astellas exercises the Option, if the *tirasemtiv* Product is [*] (as defined in the *tirasemtiv* Agreement), other financial terms will be adjusted as described in the *tirasemtiv* Agreement.

2.8 Representation and Warranties.

(a) Representation and Warranties of Each Party. Each Party represents and warrants to the other Party as of the Amendment Execution Date that:

(1) it is duly organized and validly existing under the laws of its jurisdiction of incorporation or formation, and has full corporate or other power and authority to enter into this Amendment and to carry out the provisions hereof;

(2) it has the full right, power and authority to enter into this Amendment, to perform its obligations hereunder; and

(3) this Amendment has been duly executed by it and is legally binding upon it, enforceable in accordance with its terms, and does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, nor violate any material law or regulation of any court, governmental body or administrative or other agency having jurisdiction over it.

(b) Covenant by Cytokinetics. Cytokinetics represents and warrants to Astellas, as of the Amendment Execution Date and, unless otherwise disclosed in writing by Cytokinetics to Astellas on or before the Amendment Effective Date, that:

(1) it has not previously assigned, transferred, conveyed or otherwise encumbered its right, title and interest in *tirasemtiv* Cytokinetics Patents listed in Exhibit E in a manner that is inconsistent with the Option granted to Astellas under Section 2.2 and license anticipated to be granted to Astellas under the *tirasemtiv* Agreement, respectively;

(2) to Cytokinetics' knowledge, all *tirasemtiv* Cytokinetics Patents existing as of the Amendment Execution Date or Amendment Effective Date, as applicable, are listed in Exhibit E; and

(3) it has the right to grant the license and rights herein to Astellas and it has not granted any license, right or interest in, to or under the *tirasemtiv* Cytokinetics Patents listed in Exhibit E to any Third Party that is inconsistent with the option granted to Astellas under Section 2.2 and license anticipated to be granted to Astellas under the *tirasemtiv* Agreement, respectively; and

(4) it has not received any written notification from any Third Party alleging that the Development, Manufacture and/or proposed Commercialization of the *tirasemtiv* Product currently under Development by Cytokinetics infringes the Patent Rights of any Third Party; and

(5) in the course of the Development and Manufacture of Tirasemtiv and *tirasemtiv* Product, neither Cytokinetics nor its Affiliates uses any employee or consultant (including of any sublicensee), who has been debarred or disqualified by any Regulatory Authority, or, to its or its Affiliates' knowledge, is the subject of debarment or disqualification proceedings by a Regulatory Authority. Cytokinetics shall notify Astellas promptly upon becoming aware that any of its or its Affiliates' employees or consultants has been debarred or is the subject of debarment or disqualification proceedings by any Regulatory Authority.

(c) No Other Warranties. EXCEPT AS EXPRESSLY STATED IN THIS SECTION 2.8, (A) NO REPRESENTATION, CONDITION OR WARRANTY WHATSOEVER IS MADE OR GIVEN BY OR ON BEHALF OF ASTELLAS OR CYTOKINETICS; AND (B) ALL OTHER CONDITIONS AND WARRANTIES WHETHER ARISING BY OPERATION OF LAW OR OTHERWISE ARE HEREBY EXPRESSLY EXCLUDED, INCLUDING ANY CONDITIONS AND WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.

3. AMENDMENT WITH RESPECT TO THE RESEARCH PLAN AND OTHER AMENDMENT

3.1 Section 1.81 of the 2014 Agreement is hereby amended by adding the following phrase at the end "and/or, if and after Astellas exercises its Option, [*] Compounds, including Tirasemtiv."

3.2 Section 5.2 of the 2014 Agreement is hereby amended to replace the phrase "December 31, 2016" in the first sentence of such section with the phrase "December 31, 2017."

3.3 Section 5.3 of the 2014 Agreement is hereby amended to replace the phrase "December 31, 2016" in the third sentence of such section with the phrase "December 31, 2017." The Research Plan has been updated by the JRC to include Astellas' sponsorship of [*] at Cytokinetics through December 31, 2017.

3.4 Section 1.37 of the 2014 Agreement is hereby amended by adding the following sentence: "For clarity, any of the named countries in this Section shall remain part of the EU for the purpose of this Agreement regardless of whether they remain a member state of the EU."

3.5 The following definition is hereby added to the 2014 Agreement: "**Other Collaboration Product**" means any Collaboration Product containing a Fast Skeletal Regulatory Activator other than the Lead Compound that is Developed for ALS as an [*] Indication.

3.6 The following definition is hereby added to the 2014 Agreement: "**Regulatory Approval**" means the approval by the appropriate Regulatory Authority to commercially sell a pharmaceutical product (but excluding pricing or reimbursement approval) in the Field in a particular jurisdiction.

3.7 The Parties acknowledge that one or more Retained Indications may be added as [*] Indications by the Parties in accordance with Section [*] of the 2014 Agreement, and the Parties hereby agree that [*] in connection with the addition of any such Retained Indications as [*] Indications.

3.8 Prior to either Party incurring any [*] Development Costs, the Parties shall adjust the payment mechanism under Section [*] of the 2014 Agreement to account for the fact that Astellas will also be incurring a portion of such [*] Development Costs.

4. MISCELLANEOUS

4.3 Press Release. The Parties have agreed to issue a joint press release announcing the Amendment on or promptly after the Amendment Execution Date on a date to be agreed by the Parties and in a form to be mutually agreed by the Parties.

4.4 Full Force. Cytokinetics and Astellas hereby agree to amend the terms of the 2014 Agreement as provided herein, effective as of the Amendment Effective Date. Where the 2014 Agreement is not explicitly amended, the terms of the 2014 Agreement will remain in force. To the extent that there are any inconsistencies between this Amendment and the 2014 Agreement, the terms of this Amendment shall govern and shall supersede the 2014 Agreement. Capitalized terms used in this Amendment that are not otherwise defined herein shall have the meanings such terms are given in the 2014 Agreement. Specifically and without limiting the foregoing, during the Option Period, the activities conducted by the Parties under this Amendment under the Global Development Plan for the *tirasemtiv* Product shall be deemed within the oversight of the Committees set forth in Article 2 of the 2014 Agreement, the overall standard applicable to the conduct of development activities under the 2014 Agreement (such as record keeping and compliance with law) shall apply to such activities under the Global Development Plan, and the information, data, results, other Know-How, inventions and Patents generated in connection therewith shall be governed under Article 12 (Intellectual Property Rights) and Article 13 (Confidentiality) of the 2014 Agreement. Unless otherwise set forth in this Amendment, Section 11.11 (Taxes), Section 11.12 (Records and Audit Rights), Article 16 (Indemnification; Liability; Insurance) and Article 17 (General Provisions) of the 2014 Agreement shall be applicable mutatis mutandis to (i) Tirasemtiv, (ii) tirasemtiv Product and (iii) each party's exercise of the rights and performance of the obligations under Article 2 of this Amendment.

4.5 Entire Agreement. The 2014 Agreement, this Amendment and, if effectuated, the *tirasemtiv* Agreement, represents the entire agreement and understanding between the parties with respect to its subject matter. They supersede all prior or contemporaneous discussions, representations or agreements, whether written or oral, of the parties regarding this subject matter.

4.6 Electronic Signatures. The Parties to this Amendment agree that a copy of the original signature (including an electronic copy) may be used for any and all purposes for which the original signature may have been used. The Parties further waive any right to challenge the admissibility or authenticity of this Amendment in a court of law based solely on the absence of an original signature.

4.7 Counterparts. This Amendment may be executed in counterparts, and all of these counterparts together shall be deemed to constitute one and the same agreement.

4.8 Antitrust Filings.

(a) Each of Astellas and Cytokinetics agrees to prepare and make appropriate filings under the Hart-Scott Rodino (HSR) Act and other antitrust requirements relating to this Amendment and the transactions contemplated hereby as soon as reasonably practicable after the Amendment Execution Date (**"HSR Filing Date"**), and Astellas shall bear the filing fees associated with any HSR filing, but each Party shall otherwise bear its own costs in connection with such filings. The Parties agree to cooperate in the antitrust clearance process and to furnish promptly to the Federal Trade Commission (FTC), the Antitrust Division of the Department of Justice (DOJ) and any other agency or authority, any information reasonably requested by them in connection with such filings. With respect to the HSR and other filings made pursuant to this Section 4.8(a), each of Astellas and Cytokinetics shall, to the extent practicable and subject to applicable law: (i) promptly notify the other Party of any material communication to that Party from the FTC, the DOJ, or any other agency or authority and discuss with and permit the other Party to review in advance any proposed written communication to any of the foregoing; (ii) not agree to participate in any substantive meeting or discussion with the FTC, the DOJ or any other agency or authority in respect of any filings, investigation or inquiry concerning this Amendment unless it consults with the other Party in advance and, to the extent permitted by the FTC, the DOJ or any other agency or authority, give the other Party the opportunity to attend and participate thereat; and (iii) furnish the other Party with copies of all correspondence and communications between them and their Affiliates and their respective representatives on the one hand, and the FTC, the DOJ or any other agency or authority or members of their respective staffs on the other hand, with respect to this Amendment. Notwithstanding any of the foregoing, nor anything else contained in this Amendment, Astellas shall not be required, in order to avoid, eliminate, or resolve any objections or impediments under any antitrust, competition, or trade regulation law that may be asserted by the FTC, the DOJ or any other agency or governmental authority relating to this Amendment and the transactions contemplated hereby, to propose, negotiate, commit to or effect, by consent decree, hold separate order, or otherwise, the license, sale, divestiture or disposition or otherwise take or commit to take any action which it is capable of taking that would restrict or limit its freedom of action, ownership, or operations, with respect to any assets or businesses of Astellas or its Affiliates, or any rights granted to Astellas under this Amendment.

(b) Other than the provisions of this Section 4.8, the rights and obligations of the Parties under this Amendment shall not become effective until (a) the waiting period (and any extension thereof) applicable to the transactions contemplated by this Amendment under the HSR Act shall have expired or earlier been terminated; (b) no injunction (whether temporary, preliminary or permanent) prohibiting consummation of the transactions contemplated by this Amendment or any material portion hereof shall be in effect; and (c) no judicial or administrative proceeding opposing consummation of all or any part of this Amendment shall be pending (the date these conditions are satisfied being the "**Amendment Effective Date**"). Upon the occurrence of the Amendment Effective Date, all provisions of this Amendment shall become effective automatically without the need for further action by the Parties.

(c) If the Amendment Effective Date has not occurred within one hundred twenty (120) days after the Amendment Execution Date, or such other date as the Parties may mutually agree, this Amendment may be terminated by either Party on written notice to the other.

[Signature Page Follows]

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

IN WITNESS WHEREOF, the Parties intending to be bound have caused this Amendment to be executed by their duly authorized representatives as of the Amendment Execution Date.

Cytokinetics, Inc.		**Astellas Pharma Inc.**	
By:	/s/ Robert I. Blum	By:	/s/ Yoshihiko Hatanaka
Name:	Robert I. Blum	Name:	Yoshihiko Hatanaka
Title:	President and CEO	Title:	President and CEO

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

Exhibit A

Update to the Development Plan

[*]

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

Exhibit B

Material Contracts

[*]

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

Exhibit C

tirasemtiv Agreement

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

Tirasemtiv License and Collaboration Agreement

by and between

Cytokinetics, Inc.

and

Astellas Pharma Inc.

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

TIRASEMTIV LICENSE AND COLLABORATION AGREEMENT

This TIRASEMTIV LICENSE AND COLLABORATION AGREEMENT (this "**Agreement**") is made as of [_____] (the "**Effective Date**"), by and between Cytokinetics, Inc., a corporation organized and existing under the laws of Delaware, having its principal place of business at 280 East Grand Avenue, South San Francisco, CA 94080, USA ("**Cytokinetics**"), and Astellas Pharma Inc., a corporation organized and existing under the laws of Japan, having its registered office at 2-5-1, Nihonbashi-Honcho, Chuo-ku, Tokyo 103-8411, Japan ("**Astellas**"). Astellas and Cytokinetics are referred to in this Agreement individually as a "**Party**" and collectively as the "**Parties.**"

RECITALS

WHEREAS, Cytokinetics is a biopharmaceutical company directed to the research and development of small molecule compounds that modulate muscle function, including *tirasemtiv*, and owns certain patents and know-how relating to skeletal sarcomere activators;

WHEREAS, Astellas is a pharmaceutical company working to create and develop novel therapies;

WHEREAS, Astellas has conducted [*];

WHEREAS, Cytokinetics and Astellas are parties to a License and Collaboration Agreement, dated June 21, 2013, as previously amended and restated, including on December 22, 2014 and on July 27, 2016 (the "**2014 Agreement**"), pursuant to which the Parties established a collaboration for the research, development and commercialization of certain skeletal muscle sarcomere activators. Under the 2014 Agreement, Cytokinetics also granted Astellas an option (the "**Option**") to establish a collaboration for the development and, if successful, commercialization of pharmaceutical products that contain *tirasemtiv* under the terms and conditions set forth in this Agreement;

WHEREAS, Astellas has exercised such Option and paid the applicable option exercise fee and other applicable payments, all in accordance with the terms and conditions of the 2014 Agreement;

WHEREAS, this Agreement has become effective as of the Effective Date set forth above, as a result of Astellas' exercise of such Option.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants contained herein, the receipt and sufficiency of which are hereby acknowledged, Astellas and Cytokinetics hereby agree as follows:

ARTICLE 1
DEFINITIONS

The terms in this Agreement with initial letters capitalized shall have the meanings set forth below, or the meaning as designated in the indicated places throughout this Agreement.

1.1 "**Active Ingredient**" means the clinically active material(s) that provide pharmacological activity in a pharmaceutical product (excluding formulation components such as coatings, stabilizers, excipients or solvents, adjuvants or controlled release technologies).

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

1.2 "**Affiliate**" means, with respect to a Party, any Person that controls, is controlled by, or is under common control with that Party. For the purpose of this definition only, "**control**" (including, with correlative meaning, the terms "**controlled by**" and "**under the common control**") means the actual power, either directly or indirectly through one or more intermediaries, to direct or cause the direction of the management and policies of such Person, whether by the ownership of more than fifty percent (50%) of the voting stocking of such Person, by contract or otherwise.

1.3 "**ALS**" means amyotrophic lateral sclerosis.

1.4 "**Astellas Know-How**" means all Know-How that is (a) Controlled by Astellas or its Affiliates during the Term and (b) reasonably necessary or useful for the Development, Manufacture, Commercialization or Medical Affairs Activities of Tirasemtiv and/or Product, provided, however, that Astellas Know-How specifically excludes Collaboration Know-How.

1.5 "**Astellas Patents**" means any Patent Right that is (a) Controlled by Astellas or its Affiliates during the Term and (b) reasonably necessary or useful for the Development, Manufacture, Commercialization or Medical Affairs Activities of Tirasemtiv and/or Product, provided, however, that Astellas Patents specifically exclude Collaboration Patents. The Astellas Patents existing as of the effective date of the Option grant are listed in Exhibit A. Astellas shall promptly update Exhibit A after the Effective Date.

1.6 "**Astellas Technology**" means Astellas Know-How and Astellas Patents.

1.7 "**Astellas Territory**" means any country or territory outside the Cytokinetics Territory.

1.8 "**Business Day**" means a day other than a Saturday, Sunday or a day that is a statutory holiday in Japan or a bank holiday in New York, USA.

1.9 "**Claims**" means all Third Party demands, claims, actions, proceedings and liability (whether criminal or civil, in contract, tort or otherwise) for losses, damages, reasonable legal costs and other reasonable expenses of any nature.

1.10 "**CMC Activities**" means the chemistry, manufacturing, control and other activities necessary or useful for generating the CMC Information required for Marketing Approval of the Product, including Manufacture of validation and/or clinical trial materials, which are necessary or useful to obtain Marketing Approval of the Product.

1.11 "**CMC Information**" means information related to the chemistry, manufacturing and controls of Tirasemtiv or a Product, as specified by FDA, EMA or other applicable Regulatory Authority.

1.12 "**Collaboration**" means the collaboration of the Parties with respect to the Development, Manufacture, Commercialization and Medical Affairs Activities of Tirasemtiv and Product in the Field, as and to the extent set forth in this Agreement.

1.13 "**Collaboration Intellectual Property**" means any information and materials, including discoveries, improvements, modifications, processes, methods, assay, designs, protocols, formulas, data, inventions, algorithms, forecasts, profiles, strategies, plans, results, coordinates for compound/apo protein structures, expression constructs, know-how and trade secrets, patentable or otherwise, that is discovered, generated, conceived and/or reduced to practice by or on behalf either Party (including its Affiliates, employees, agents and contractors), whether solely or jointly, as a result of the performance of its activities under the Development Plan, Commercialization Plan, and/or Medical Affairs Plan, in each case including all rights, title and interest in and to the intellectual property rights therein and thereto.

1.14 "**Collaboration Know-How**" means Know-How that is within the Collaboration Intellectual Property.

1.15 "**Collaboration Patents**" means Patent Rights that claim any Collaboration Intellectual Property, provided that any Patent Rights [*] Collaboration Patents.

1.16 "**Commercialize**" or "**Commercialization**" means all activities directed to marketing, promoting, advertising, exhibiting, distributing (including management of wholesalers), detailing or selling a Product in the Field (including importing and exporting activities in connection therewith). For the avoidance of doubt, Commercialization does not include Medical Affairs Activities.

1.17 "**Committee**" means the JSC, JDC, JMC, JCC, JMAC, or JPC as defined in Article 2 below, as applicable.

1.18 "**Confidential Information**" of a Party means all Know-How, unpublished patent applications and other non-public information and data of a financial, commercial, business, operational or technical nature of such Party that is disclosed by or on behalf of such Party or any of its Affiliates or otherwise made available to the other Party or any of its Affiliates, in each case in connection with this Agreement, whether made available orally, visually, in writing or in electronic form. Collaboration Intellectual Property shall be deemed Confidential Information of both Parties.

1.19 "**Control**" or "**Controlled**" means, with respect to any Know-How, Patent Rights or other intellectual property rights, that a Party has the legal authority or right (whether by ownership, license or otherwise) to grant a license, sublicense, access or right to use (as applicable) under such Know-How, Patent Rights, or other intellectual property rights to the other Party on the terms and conditions set forth herein, in each case without breaching the terms of any agreement with a Third Party.

1.20 "**Cytokinetics Know-How**" means all Know-How that is (a) Controlled by Cytokinetics or its Affiliates during the Term and (b) reasonably necessary or useful for the Development, Manufacture, Commercialization or Medical Affairs Activities of Tirasemtiv and/or Product, provided, however, that Cytokinetics Know-How specifically excludes Collaboration Know-How.

1.21 "**Cytokinetics Patents**" means any Patent Right that is (a) Controlled by Cytokinetics or its Affiliates during the Term and (b) reasonably necessary or useful for the Development, Manufacture, Commercialization or Medical Affairs Activities of Tirasemtiv and/or Product, provided, however, that Cytokinetics Patents specifically exclude Collaboration Patents. The Cytokinetics Patents existing as of the effective date of the Option grant are listed in Exhibit B. For clarity, Cytokinetics Patents shall include any Patent Rights arising after the effective date of the Option grant that [*]. Cytokinetics shall promptly update Exhibit B after the Effective Date.

1.22 "**Cytokinetics Royalty Territory**" means the countries in the Cytokinetics Territory but outside the Cytokinetics Sole Territory.

1.23 "**Cytokinetics Sole Territory**" means the country(ies) in Cytokinetics Territory for which [*] or which otherwise are [*].

1.24 "**Cytokinetics Technology**" means Cytokinetics Patents and Cytokinetics Know-How.

1.25 "**Cytokinetics Territory**" means the following countries and territories: U.S., Canada, Switzerland, EU, Turkey and Israel, as may be adjusted pursuant to Section 3.5.

1.26 "**Develop**" or "**Development**" means all development activities for *Tirasemtiv* or Product that are directed to obtaining or maintaining Marketing Approval(s) of the Product, including: all non-clinical, preclinical and clinical activities, testing and studies of *Tirasemtiv* or Product (including IND-Enabling Studies and translational research); manufacturing development, process and formulation development; toxicology, pharmacokinetic, pharmacodynamic, drug-drug interaction, safety, tolerability and pharmacological studies; distribution of Tirasemtiv or Product for use in clinical trials (including placebos and comparators); statistical analyses; assay development; instrument design and development; protocol design and development; quality assurance and control; report writing; and the preparation, filing and prosecution of any MAA for the Product; development activities directed to label expansion (including prescribing information) and/or obtaining Marketing Approval for one or more additional Indications or patient populations following initial Marketing Approval; development activities conducted after receipt of Marketing Approval which were a condition for the receipt of such Marketing Approval; and all regulatory activities related to any of the foregoing.

1.27 "**Development Costs**" means the [*] costs incurred by or on account of a Party in performing Development in accordance with the Development Plan.

1.28 "**Diligent Efforts**" means: (a) where applied to carrying out specific tasks and obligations of a Party under this Agreement, expending [*] to accomplish such task or obligation as such Party (on its own and/or acting through any of its Affiliates, sublicensees or subcontractors) would [*]; and (b) where applied to the Development, Manufacture, and/or Commercialization of, or Medical Affairs Activities for, *Tirasemtiv* or Product, the use of [*], in an [*], as [*], taking into account relevant factors including, without limitation, [*] and other relevant factors, including [*]. "Diligent Efforts" shall require that such Party (on its own and/or acting through any of its Affiliates, sublicensees or subcontractors), at a minimum: (i) promptly assign responsibility for such obligations to qualified personnel, set annual goals and objectives for carrying out such obligations, and monitor and hold personnel accountable for progress with respect to such goals and objectives; (ii) set and seek to achieve specific and meaningful objectives for carrying out such obligations, with timelines consistent with a comparable [*] program; and (iii) make and implement decisions and [*] designed to [*] with respect to such objectives.

1.29 "**Dollars**" means the U.S. dollar, and "**$**" shall be interpreted accordingly.

1.30 "**EMA**" means the European Medicines Agency or any successor entity thereto.

1.31 "**EU**" or the "**European Union**" means (a) the European Union and its member states as of the Effective Date, which are: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom, and any other member states that may be added to the European Union between July 27, 2016 and the Effective Date and (b) Norway, Iceland, Liechtenstein, Andorra, Monaco, San Marino and the Vatican, and each of their successors to the extent such successors occupy the same territory. For clarity, any of the named countries in subsection (a) shall remain part of the EU for the purpose of this Agreement regardless of whether they remain a member state of the EU.

1.32 "**FDA**" means the United States Food and Drug Administration or any successor entity thereto.

1.33 "**Field**" means the treatment, prevention and/or amelioration of any diseases and medical conditions in humans, including but not limited to ALS and the Retained Indications (as defined in the 2014 Agreement).

1.34 "**Filing**" of an MAA means the acceptance by a Regulatory Authority of an MAA for filing and review, if applicable, or otherwise the submission of such MAA.

1.35 "**First Commercial Sale**" means, with respect to any Product in any country or jurisdiction, the first sale of such Product to a Third Party for distribution, use or consumption in such country or jurisdiction after the Marketing Approvals have been obtained for such Product in such country or jurisdiction. For clarity, First Commercial Sale does not include any sale or transfer of the Product in early access or named patient programs.

1.36 "**FTE**" means the equivalent of a full-time individual's work for a twelve (12) month period (consisting of a total of [*] hours per year of dedicated effort). Any person who devotes more or less than [*] hours per year on the applicable activities shall be treated as an FTE on a pro-rata basis, based upon the actual number of hours worked by such person on such activities, divided by [*]. For avoidance of doubt, the hours allocated to the work of general corporate or administrative personnel shall not be incorporated into FTE.

1.37 "**FTE Rate**" means an initial rate of [*] per FTE per year, which shall apply through [*]. Thereafter, the FTE Rate shall be changed annually on a calendar year basis to reflect any year-to-year percentage increase or decrease (as the case may be) in the Consumer Price Index for [*], as published by the U.S. Department of Labor, Bureau of Labor Statistics ("**CPI**") (based on the change in the CPI from the most recent index available as of the Effective Date to the most recent index available as of the date of the calculation of such revised FTE Rate).

1.38 "**GAAP**" means the U.S. generally accepted accounting principles.

1.39 "**Generic Product**" means, with respect to a Product in a particular country, any pharmaceutical product that (a) contains the same Active Ingredients and formulation as such Product; (b) [*] in such country and on [*] in such country; and (c) is sold in such country by a Third Party that is not a sublicensee of Astellas or its Affiliates and did not purchase such product in a chain of distribution that included any of Astellas or its Affiliates or sublicensees.

1.40 "**Governmental Authority**" means any federal, state, national, state, provincial or local government, or political subdivision thereof, or any multinational organization or any authority, agency or commission entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power, any court or tribunal (or any department, bureau or division thereof, or any governmental arbitrator or arbitral body).

1.41 "**IFRS**" means International Financial Reporting Standards.

1.42 "**IND**" means any investigational new drug application, clinical trial application, clinical trial exemption or similar or equivalent application or submission for approval to conduct human clinical investigations filed with or submitted to a Regulatory Authority in conformance with the requirements of such Regulatory Authority.

1.43 "**IND-Enabling Studies**" means studies that are specifically required for an IND, including ADME (absorption, distribution, metabolism, and excretion), GLP toxicology studies, or studies required for the preparation of the CMC section of an IND, including studies related to analytical methods and purity analysis, and formulation and manufacturing development studies, all as necessary to obtain the permission of Regulatory Authorities to begin human clinical investigations.

1.44 "**Indication**" means any human diseases, syndromes and medical conditions that can be diagnosed, treated, prevented or ameliorated.

1.45 "**Initiate**" or "**Initiation**" means, with respect to a clinical trial of a Product, the first dosing of the first human subject for such clinical trial.

1.46 "**Know-How**" means any information and materials, including discoveries, improvements, modifications, processes, methods, assays, designs, protocols, formulas, data, inventions, algorithms, forecasts, profiles, strategies, plans, results, coordinates for compound/apo protein structures, expression constructs, know-how and trade secrets (in each case, patentable, copyrightable or otherwise), but excluding any Patent Rights.

1.47 "**Law**" means any federal, state, local, foreign or multinational law, statute, standard, ordinance, code, rule, regulation, resolution or promulgation, or any order by any Governmental Authority, or any license, franchise, permit or similar right granted under any of the foregoing, or any similar provision having the force or effect of law.

1.48 "**MAA**" or "**Marketing Authorization Application**" means an application to the appropriate Regulatory Authority for approval to commercially sell a Product (but excluding pricing approval) in the Field in a particular jurisdiction (including, without limitation, a New Drug Application in the U.S.) and all amendments and supplements thereto.

1.49 "**Major EU Market Countries**" means [*].

1.50 "**Major Market Countries**" means the [*].

1.51 "**Manufacture**" and "**Manufacturing**" mean activities directed to manufacturing, processing, filling, finishing, packaging, labeling, quality control, quality assurance, testing and release, post-marketing validation testing, inventory control and management, storing and transporting Tirasemtiv and/or Product.

1.52 "**Manufacturing Costs**" means, with respect to *Tirasemtiv* or Product Manufactured and supplied by Cytokinetics for use in Cytokinetics Development Activities:

(a) if Tirasemtiv or Product is Manufactured by Cytokinetics' Third Party manufacturer, [*] costs incurred by Cytokinetics' in association therewith, including for [*] with respect thereto;

(b) if Tirasemtiv or Product is Manufactured by Cytokinetics itself, [*], including without limitation [*] manufacturing costs. Such [*] of Tirasemtiv or Product [*] and (ii) in accordance with GAAP consistently applied.

1.53 "**Marketing Approval**" means all approvals necessary for the commercial sale of a Product in the Field in a given country or regulatory jurisdiction.

1.54 "**Medical Affairs Activities**" means activities, in compliance with all the applicable Law, designed to ensure or improve appropriate medical use of, conduct medical education regarding, or further research regarding, Tirasemtiv and the Product or to increase disease state awareness, including by way of example: (a) activities of medical scientific liaisons, which shall mean the following functions: (x) conduct of service based medical activities including providing input and assistance with consultancy meetings, recommending investigators for clinical trials and providing input in the design of such trials and other research related activities, and (y) delivery of non-promotional communications and conduct of non-promotional activities including presenting new clinical trial data and other scientific or disease state awareness information; (b) grants to support continuing medical education, symposia, or Third Party research related to Product; (c) development, publication and dissemination of publications relating to Tirasemtiv and the Product and relevant disease states; (d) medical information services provided in response to inquiries communicated via sales representatives or received by letter, phone call or email; (e) conducting advisory board meetings or other consultant programs; (f) support of investigator-initiated trials; (g) managing relationships with cooperative groups, physician/hospital networks and disease state or patient and caregiver advocacy groups; (h) establishing and implementing risk, evaluation and mitigation strategies, (i) voluntary phase 4 trials or post-approval patient registries, (j) health economic and outcomes research (HEOR) activities, (k) independent medical education activities, and (l) non-promotional exhibiting at medical and scientific fora. For the purposes of clarity, post-approval clinical studies within the approved Indications, which were a condition for the receipt of Marketing Approval, shall be included within Development and shall not be included within Medical Affairs Activities.

1.55 "**Net Sales**" means the gross amount billed or invoiced by or for the benefit of a Party, its Affiliates, and its sublicensees to independent, unrelated persons in bona fide arm's length transactions with respect to a Product, less the following deductions, as allocable to such Product (if not previously deducted from the amount invoiced):

(a) [*];

(b) [*];

(c) [*];

(d) [*]; and

(e) [*].

If a single item falls into more than one of the categories set forth in clauses (a)-(e) above, such item may not be deducted more than once.

Sales between a Party and its Affiliates and sublicensees shall be disregarded for purposes of calculating Net Sales except if such purchaser is a distributor, pharmacy or end user. Net Sales also exclude any sale or transfer of the Product in early access or named patient programs.

If a Product either (i) is sold in the form of a combination product containing both Tirasemtiv and one or more Active Ingredient(s) as separate molecular entity(ies) that are not Tirasemtiv; or (ii) is sold in a form that contains (or is sold bundled with) a delivery device therefor (in either case ((i) or (ii)), a "**Combination Product**"), the Net Sales of such Product for the purpose of calculating royalties and sales-based milestones owed under this Agreement for sales of such Product, shall be determined as follows: first, the actual Net Sales of such Combination Product shall be determined using the above provisions, and then such amount shall be multiplied by the fraction A/(A+B), where A is the invoice price of the Product that contains only Tirasemtiv, if sold separately, and B is the total invoice price of other Active Ingredient or delivery device in such Combination Product if sold separately. If any other Active Ingredient or delivery device in such Combination Product is not sold separately, Net Sales shall be calculated by multiplying actual Net Sales of such Combination Product by a fraction A/C where A is the invoice price of the Product that contains only Tirasemtiv if sold separately, and C is the invoice price of such Combination Product. If neither such Product that contains only Tirasemtiv nor any other Active Ingredient (or delivery device) in such Combination Product is sold separately, the adjustment to Net Sales shall be determined by the Parties in good faith to reasonably reflect the fair market value of the contribution of Tirasemtiv in such Combination Product to the total fair market value of such Combination Product.

With respect to any sale of any Product in a given country for any substantive consideration other than monetary consideration on arm's length terms (which has the effect of reducing the invoiced amount below what it would have been in the absence of such non-monetary consideration), for purposes of calculating the Net Sales, such Product shall be deemed to be sold exclusively for cash at the average Net Sales price charged to Third Parties for cash sales of such Product in such country during the applicable reporting period (or if there were only de minimis cash sales in such country, at the fair market value as determined in good faith based on pricing in comparable markets). Notwithstanding the foregoing, Net Sales shall not include amounts (whether actually existing or deemed to exist for purposes of calculation) for Product distributed for use in clinical trials.

Net Sales shall be calculated on an accrual basis, in a manner consistent with the selling Party's accounting policies for external reporting purposes, as consistently applied, in accordance with GAAP or IFRS as applicable. To the extent any accrued amounts used in the calculation of Net Sales are estimates, such estimates shall be trued-up in accordance with the selling Party's accounting policies for external reporting purposes, as consistently applied, and Net Sales and related payments under this Agreement shall be reconciled as appropriate.

1.56 "**Patent Rights**" means all patents and patent applications (which shall be deemed to include certificates of invention and applications for certificates of invention), including all divisionals, continuations, substitutions, continuations-in-part, re-examinations, reissues, additions, renewals, revalidations, extensions, registrations, pediatric exclusivity periods and supplemental protection certificates and the like of any such patents and patent applications, and any and all foreign equivalents of the foregoing.

1.57 "**Person**" means any individual, partnership, limited liability company, firm, corporation, association, trust, unincorporated organization or other entity.

1.58 "**Product**" means any pharmaceutical product containing Tirasemtiv (including in any [*]), alone or in combination with other Active Ingredients, in any formulation or dosage form and for any mode of administration.

1.59 "**Region**" shall mean each of: (a) Japan; (b) Asia outside Japan and Oceania; (c) the Americas; and (d) EMEA. For clarity, (a) through (d) mean each one of Astellas' four major subsidiaries and regions of operations. "Asia outside Japan" includes all countries in Asia (excluding Japan and the Middle East) and Oceania, including the Significant Markets of [*]. "Americas" includes all countries in Latin America, including the Significant Markets of [*]. "EMEA" includes all countries in Europe, Middle East, and Africa, including the Significant Markets of [*]. Notwithstanding the foregoing, all Regions exclude countries in the Cytokinetics Territory. If there is an unresolved dispute regarding whether a country is in a particular Region after escalation to the JSC, then the matter shall be resolved in accordance with Section 15.6.

1.60 "**Regulatory Approval**" means the approval by the appropriate Regulatory Authority to commercially sell a pharmaceutical product (but excluding pricing approval) in the Field in a particular jurisdiction.

1.61 "**Regulatory Authority**" means any applicable Governmental Authority responsible for granting Marketing Approvals or pricing approvals for Product, including the FDA, the EMA and any corresponding national or regional regulatory authorities.

1.62 "**Regulatory Exclusivity**" means any exclusive marketing rights or data exclusivity rights conferred by any Regulatory Authority with respect to a pharmaceutical product other than patents, including, without limitation, orphan drug exclusivity, new chemical entity exclusivity, data exclusivity, pediatric exclusivity, rights conferred in the United States under the Hatch-Waxman Act or the FDA Modernization Act of 1997, or rights similar thereto outside the United States.

1.63 "**Regulatory Materials**" means any regulatory application, submission, notification, communication, correspondence, registration and other filings made to, received from or otherwise conducted with a Regulatory Authority in order to Develop, Manufacture, or Commercialize Tirasemtiv or Product in the Field in a particular country or jurisdiction. "Regulatory Materials" includes any IND, MAA and Marketing Approval.

1.64 "**Significant Market**" means each of the following: (a) Japan; (b) [*] for Asia outside Japan and Oceania; (c) [*] for the Americas; and (d) [*] for EMEA. The Parties may adjust the countries listed in subsections (b) through (d) by mutual agreement. For clarity, (a) through (d) mean each one of Astellas' four major subsidiaries and regions of operations. "Asia outside Japan" includes all countries in Asia (excluding Japan and the Middle East) and Oceania, including the Significant Markets of [*]. "Americas" includes all countries in Latin America, including the Significant Markets of [*]. "EMEA" includes all countries in Europe, Middle East, and Africa, including the Significant Markets of [*]. Notwithstanding the foregoing, all Regions exclude countries in the Cytokinetics Territory. If there is an unresolved dispute regarding whether a country is in a particular Region after escalation to the JSC, then the matter shall be resolved in accordance with Section 15.6.

1.65 "**Third Party**" means any Person other than a Party or an Affiliate of a Party.

1.66 "**Tirasemtiv**" means Cytokinetics' proprietary compound formerly known as CK-2017357.

1.67 "**United States**" or "**U.S.**" means the United States of America, including its fifty (50) states, possessions, protectorates, territories, the District of Columbia, and Puerto Rico.

1.68 "**Valid Claim**" means a claim of an issued and unexpired patent (as may be extended through supplementary protection certificate or patent term extension) or a pending patent application included within [*], which claim has not been revoked, held invalid or unenforceable by a patent office, court or other governmental agency of competent jurisdiction in a final and non-appealable judgment (or judgment from which no appeal was taken within the allowable time period) and has not been disclaimed, denied or admitted to be invalid or unenforceable through reissue, re-examination or disclaimer or otherwise.

1.69 **Additional Definitions**. The following table identifies the location of definitions set forth in various Sections of the Agreement:

Definition	**Section**
Alliance Manager	2.1
Astellas Development Activities	4.3(b)
Astellas Indemnitees	14.1
Bankruptcy Code	3.8
Commercialization Plan	7.2(a)
[*]	[*]
Cytokinetics Country-Specific Development Activities	4.3(a)
Cytokinetics Development Activities	4.3(a)
Cytokinetics Global Development Activities	4.3(a)
Cytokinetics Indemnitees	14.2
Development Advance Invoice	9.2(a)
Development Budget	4.2(a)
Development Plan	4.2(a)
Development Program	4.2(a)
Development Project Team	4.10
Development True-Up Report	9.2(b)
Disclosing Party	11.1(a)
[*]	[*]
FCPA	15.7(a)
FCPA Covered Person	15.7(a)
Federal Arbitration Act	15.6
Global Brand Elements	10.5(b)

Indemnified Party	14.3
Indemnifying Party	14.3
[*] Rules	15.6
Joint Commercialization Committee or JCC	2.5
Joint Development Committee or JDC	2.3
Joint Manufacturing Committee or JMC	2.4
Joint Medical Affairs Committee or JMAC	2.6
Joint Patent Committee or JPC	2.7
Joint Steering Committee or JSC	2.2
[*] Regulatory Materials	5.2(a)
Medical Affairs Plan	8.3(a)
[*]	[*]
Pharmacovigilance Agreement	5.5
Product Infringement	10.4(a)
Product Marks	10.5(a)
Receiving Party	11.1(a)
[*]	[*]
Remainder	10.4(g)
Remedial Action	5.7
[*]	[*]
Responsible Committee	11.4
[*]	[*]
Royalty Term	9.4(d)
Specific Country Development Cost	3.5(a)
Term	12.1

1.70 Interpretation. In this Agreement, unless otherwise expressly specified:

(a) The words "include", "includes" and "including" shall be deemed to be followed by the phrase "without limitation".

(b) words denoting the singular shall include the plural and vice versa and words denoting any gender shall include all genders;

(c) words such as "herein", "hereof", and "hereunder" refer to this Agreement as a whole and not merely to the particular provision in which such words appear;

(d) "days" means calendar days; and

(e) the Exhibits and other attachments form part of the operative provision of this Agreement and references to "this Agreement" shall include references to the Exhibits and attachments.

ARTICLE 2
GOVERNANCE

2.1 Alliance Managers. Within thirty (30) days after the Effective Date, each Party shall appoint a representative to act as its alliance manager under this Agreement by providing written notification to the other Party (the "**Alliance Manager**"). The Alliance Managers shall: (a) serve as the primary contact points between the Parties for the purpose of providing the other Party with information on the progress of such Party's activities under this Agreement; (b) be primarily responsible for facilitating the flow of information and otherwise promoting communication, coordination and collaboration between the Parties; (c) act as advocates for the Collaboration as a whole; (d) have regular telephone calls; (e) use Diligent Efforts to facilitate the prompt resolution of any disputes; (f) attend as appropriate, JDC, JMC, JCC and JMAC meetings; and (g) have the right to attend all other Committee and subcommittee meetings, all as non-voting members. An Alliance Manager may also bring any matter to the attention of any Committee if such Alliance Manager reasonably believes that such matter warrants such attention. Each Party may replace its Alliance Manager at any time upon written notice to the other Party.

2.2 Joint Steering Committee. The Parties hereby establish a joint steering committee (the "**Joint Steering Committee**" or the "**JSC**"), composed of [*] under this Agreement and [*] under this Agreement. Either Party may request that its own or the other Party's personnel with expertise on a particular matter attend a JSC meeting where such matter shall be discussed. The JSC shall in particular:

(a) oversee and provide strategic direction to the Collaboration;

(b) oversee the integration and coordination of the Development, Manufacture, Commercialization and Medical Affairs Activities of Tirasemtiv and Product within the JSC member's company;

(c) provide a forum for discussion of the Development, Manufacture, Commercialization and Medical Affairs Activities of Tirasemtiv and Product;

(d) review the Parties' progress against the Development Plan, Commercialization Plan and Medical Affairs Plan;

(e) oversee the operation of the JDC, JMC, JCC, JMAC and JPC, including resolving any disputed matter of the JDC, JMC, JCC, JMAC and JPC; and

(f) perform such other duties as are expressly assigned to the JSC in this Agreement, and such other functions as appropriate to further the purposes of this Agreement as may be allocated to it by the Parties' written agreement.

2.3 Joint Development Committee. The Parties hereby establish a joint development committee (the "**Joint Development Committee**" or the "**JDC**"), composed of [*] of each Party that have [*] in the development of products similar to Tirasemtiv and Product, to monitor and coordinate the Development of Tirasemtiv and Product under the Collaboration. All JDC representatives shall have sufficient authority within the applicable Party to make decisions [*] arising with the scope of the JDC's responsibilities. The JDC shall in particular:

(a) coordinate the activities of the Parties under the Development Plan and oversee the implementation of the Development Plan;

(b) establish the protocol and statistical analysis plan for each human clinical trial conducted under the Development Plan;

(c) prepare and approve annual or interim amendments to the Development Plan, including the Development Budget;

(d) provide a forum for and facilitate communications between the Parties with respect to the Development of Tirasemtiv and Product;

(e) monitor and coordinate all regulatory actions, communications and submissions for Tirasemtiv and Product under the Development Plan, including allocating related medical affairs responsibilities between the Parties;

(f) until formation of the JMAC, oversee medical education activities and establish a joint review process for medical affairs materials, including disease state awareness, medical education and other non-promotional materials;

(g) establish joint subcommittees, as appropriate, to carry out its functions; and

(h) perform such other functions as may be appropriate to further the purposes of this Agreement with respect to the Development of Tirasemtiv and Product.

2.4 Joint Manufacturing Committee. The Parties hereby establish a joint manufacturing committee (the "**Joint Manufacturing Committee**" or "**JMC**"), composed of up to [*] of each Party that have [*] in the manufacture of compounds and products similar to Tirasemtiv and Product, to monitor and oversee the CMC Activities and other activities related to the Manufacture of Tirasemtiv and Product for use under the Collaboration. All JMC representatives shall have sufficient authority within the applicable Party to make decisions [*] arising within the scope of the JMC's responsibilities. The JMC shall in particular:

(a) discuss, approve and oversee implementation of and progress against the Development Plan and Commercialization Plan as they relate to Manufacture of Tirasemtiv and Product, including CMC Activities;

(b) coordinate and facilitate cooperation and flow of information between the Parties with respect to the Manufacture and supply of Tirasemtiv and Product for Development and Commercialization use in accordance with Article 6;

(c) coordinate and facilitate the transfer of Manufacturing Know-How as and to the extent provided in Article 6;

(d) establish joint subcommittees, as appropriate, to carry out its functions; and

(e) perform such other functions as may be appropriate to further the purposes of this Agreement with respect to the Manufacture of Tirasemtiv and Product, as directed by the JDC or JCC (as applicable).

2.5 Joint Commercialization Committee. No later than [*], or promptly following the Effective Date (if [*]), the Parties shall establish a joint commercialization committee (the "**Joint Commercialization Committee**" or "**JCC**"), composed of [*] of each Party that have [*] in the commercialization of products similar to the Product, to monitor and oversee the Commercialization activities of the Product under the Collaboration. All JCC representatives shall have sufficient authority within the applicable Party to make decisions [*] arising within the scope of the JCC's responsibilities. The JCC shall in particular:

(a) coordinate the activities of the Parties under the Commercialization Plan and oversee the implementation of the Commercialization Plan;

(b) prepare and approve annual or interim amendments to the Commercialization Plan;

(c) provide a forum for and facilitate communications between the Parties with respect to the Commercialization of the Product;

(d) establish joint subcommittees, as appropriate, to carry out its functions; and

(e) perform such other functions as may be appropriate to further the purposes of this Agreement with respect to the Commercialization of the Product.

2.6 Joint Medical Affairs Committee. The Parties hereby establish a joint medical affairs committee (the "**Joint Medical Affairs Committee**" or "**JMAC**"), composed of [*] of each Party that have [*] in Medical Affairs Activities of products similar to the Product, to monitor and oversee the Medical Affairs Activities for Tirasemtiv and Product under the Collaboration. All JMAC representatives shall have sufficient authority within the applicable Party to make decisions [*] arising within the scope of the JMAC's responsibilities. The JMAC shall in particular:

(a) coordinate the activities of the Parties under the Medical Affairs Plan and oversee the implementation of the Medical Affairs Plan;

(b) prepare and approve annual or interim amendments to the Medical Affairs Plan;

(c) prepare and approve the protocol and statistical analysis plan for each human clinical trial to be conducted under the Medical Affairs Plan;

(d) provide a forum for and facilitate communications between the Parties with respect to the Medical Affairs Activities for Tirasemtiv and Product;

(e) establish a joint review process for medical affairs materials, including disease state awareness, medical education and other non-promotional materials;

(f) establish joint subcommittees, as appropriate, to carry out its functions; and

(g) perform such other functions as may be appropriate to further the purposes of this Agreement with respect to the Medical Affairs Activities for Tirasemtiv and Product.

2.7 Joint Patent Committee. The Parties hereby establish a joint patent committee (the "**Joint Patent Committee**" or "**JPC**"), composed of [*] representing each Party, to coordinate the prosecution and enforcement of Collaboration Patents under Article 10. Such patent counsel shall have sufficient authority within or on behalf of the applicable Party to make decisions [*] arising within the scope of the JPC's responsibilities. The JPC shall in particular:

(a) coordinate and facilitate the prosecution and enforcement of the Collaboration Patents, and make periodic reports of the same to the JSC and other Committees upon request;

(b) discuss and develop patent strategy for Collaboration Patents, including making key decisions on drafting, filing, prosecution, maintenance, enforcement and defense of Collaboration Patents, as well as providing a forum for the Parties to discuss material issues and provide input to each other regarding Collaboration Patents;

(c) determine which Patents are to be considered Collaboration Patents, and oversee the determination of inventorship of Collaboration Intellectual Property;

(d) confer regarding patent term extensions and listings in the FDA's Approved Drug Products with Therapeutic Equivalence Evaluations (known as the "**Orange Book**") and its foreign counterparts; and

(e) perform such other functions as may be appropriate to further the purposes of this Agreement with respect to the patent prosecution and enforcement activities under this Agreement.

2.8 Limitation of Committee Authority. Each Committee shall only have the powers expressly assigned to it in this Article 2 and elsewhere in this Agreement and shall not have the authority to: (a) modify or amend the terms and conditions of this Agreement; (b) waive either Party's compliance with the terms and conditions of under this Agreement; or (c) determine any such issue in a manner that would conflict with the express terms and conditions of this Agreement.

2.9 Committee Membership and Meetings.

(a) Committee Members. Within thirty (30) days after the Effective Date, each Party shall appoint its representatives on the JSC, JDC, JMC, JPC, JMAC and, if applicable, JCC, by providing written notification to the other Party. Each Party may replace its representatives on any Committee by written notice to the other Party. Each Party shall appoint one (1) of its representatives on each Committee to act as a co-chairperson of such Committee. The co-chairpersons shall jointly prepare and circulate agendas and reasonably detailed minutes for each Committee meeting within thirty (30) days of such meeting.

(b) Meetings. Unless the Parties otherwise agree, each Committee shall hold meetings at such times as it elects to do so, but no less frequently than once every [*] for the JSC and once every [*] for other Committees. Meetings of each Committee shall be held via teleconference, via videoconference or in person, provided that at least [*] per year for the [*], and [*] per year for the [*] shall be held in person (unless the Parties otherwise agree) at locations to be alternately selected by each Party. Each Party shall be responsible for all of its own expenses of participating in any Committee. No action taken at any meeting of a Committee shall be effective unless a representative of each Party is participating.

(c) Non-Member Attendance. Each Party may from time to time invite a reasonable number of participants, in addition to its representatives, to attend the Committee meetings in a non-voting capacity; provided that if either Party intends to have any Third Party (including any consultant) attend such a meeting, such Party shall provide prior written notice to the other Party and shall ensure that such Third Party is bound by confidentiality and non-use obligations consistent with the terms of this Agreement.

2.10 Continuity of Representation. Notwithstanding the Parties' respective right to replace its Alliance Manager and members of Committees by written notification to the other Party, each Party shall strive to maintain continuity in the representation of such Alliance Manager and Committee members. If a particular Committee ceases to exist but certain activities that have been overseen by such Committee are still ongoing, then the Parties shall by mutual written agreement allocate the responsibility for overseeing such activities to another then-operating Committee that is competent and suitable in authority and expertise.

2.11 Decision-Making. All decisions of each Committee shall be made [*]. If after reasonable discussion and good faith consideration of each Party's view on a particular matter before a Committee, the representatives of the Parties cannot reach an agreement as to such matter within [*] after such matter was brought to such Committee for resolution or after such matter has been referred to such Committee, such disagreement shall be referred to the JSC (in the case of disagreement of the JDC, JMC, JCC, JMAC, JPC or other joint subcommittees) for resolution. If the JSC cannot resolve such matter within [*] after such matter has been referred to them, then:

(a) [*] Final Decisions. [*] shall have the final decision making authority on the following matters:

(i) [*] of Tirasemtiv and Product [*] including [*] of the Product that is [*], including the [*]; and

(ii) [*] of the Product [*], including [*] of the Product [*], and the [*].

(b) [*] Final Decision. [*], [*] shall have the final decision making authority on [*].

(c) No Adverse Effect. Notwithstanding the foregoing, neither Party shall use its final decision making authority in a manner that would have a material adverse effect on the Product in the other Party's territory.

(d) Guiding Principles. Both Parties shall make decisions and act in accordance with the following: Each Party shall use Diligent Efforts to leverage the other Party's relevant expertise, capabilities, resources, infrastructure and relationships in the best interests of the Collaboration.

2.12 Discontinuation of Participation on a Committee. The activities to be performed by each Committee shall solely relate to governance under this Agreement, and are not intended to be or involve the delivery of services. Each Committee shall continue to exist until the first to occur of: (a) the Parties mutually agreeing to disband the Committee; or (b) Cytokinetics providing written notice to Astellas of its intention to disband and no longer participate in such Committee. Once the Parties mutually agree or Cytokinetics has provided written notice to disband such Committee, such Committee shall have no further obligations under this Agreement and, thereafter, the Alliance Managers shall be the contact persons for the exchange of information under this Agreement and decisions of such Committee shall be decisions as between the Parties, subject to the other terms and conditions of this Agreement.

2.13 Budgets and Fiscal Years. The Parties acknowledge that Astellas' fiscal year runs from April 1 through March 31, while Cytokinetics' fiscal year runs from January 1 through December 31. Accordingly, [*] relating to the Development, Manufacture and Commercialization of Tirasemtiv and Product [*].

ARTICLE 3
LICENSES

3.1 License to Astellas. Subject to the terms and conditions of this Agreement, Cytokinetics hereby grants to Astellas the following royalty-bearing licenses [*] under the Cytokinetics Technology and Cytokinetics' interest in the Collaboration Intellectual Property:

(a) to Develop Tirasemtiv and Product in the Field in the Astellas Territory pursuant to the Development Plan, [*], except as set forth in Section [*];

(b) to use, sell, offer for sale, import and otherwise Commercialize Tirasemtiv and Product in the Field in the Astellas Territory, pursuant to the Commercialization Plan, [*], except as provided in Section [*];

(c) to perform Medical Affairs Activities for Tirasemtiv and Product in the Astellas Territory, pursuant to the Medical Affairs Plan, [*], except as provided in Section [*]; and

(d) to use Tirasemtiv supplied by Cytokinetics to Manufacture or have Manufactured the Product for use in the Development and Commercialization and Medical Affairs Activities of the Product in the Field in the Astellas Territory, which license shall not prevent Cytokinetics from conducting Manufacturing activities in the Astellas Territory, either by itself or through one or more contract manufacturers.

For clarity, the licenses granted by Cytokinetics to Astellas under this Agreement [*] to develop, make, have made, use, sell, offer for sale or otherwise commercialize [*] that is [*] with Tirasemtiv. For further clarity, this Agreement does not affect any license granted by Cytokinetics to Astellas under the 2014 Agreement.

3.2 Sublicense Rights. Subject to the terms and conditions of this Agreement:

(a) Further subject to Section [*] below, each Party may exercise its rights and perform its obligations under this Agreement by itself or through the engagement of any of its Affiliates [*] in the performance of this Agreement.

(b) Each Party may sublicense the rights granted to it under Section [*] (as applicable) to one (1) or more Third Parties, provided, however, that:

(i) Section [*] shall apply in the event that [*] wishes to grant to any Third Party the right to [*];

(ii) [*] shall [*] for any such sublicense [*]; and

(iii) For any other sublicense [*], such Party shall provide the other Party [*].

(c) Each Party shall remain directly responsible for all of its obligations under this Agreement that have been delegated, subcontracted or sublicensed to any of its Affiliates, sublicensees or subcontractors and shall ensure that such Affiliates, sublicensees and subcontractors comply with the terms and conditions of this Agreement. For clarity, each Party shall have the right to engage subcontractors, such as CROs and CMOs, in accordance with Section 3.7.

3.3 Cytokinetics' Retained Rights. Cytokinetics and its Affiliates hereby retain:

(a) the rights to practice the Cytokinetics Technology and Cytokinetics' interest in the Collaboration Intellectual Property to exercise its and their rights and perform its and their obligations under this Agreement, either by itself or through one (1) or more licensees (but subject to Section [*]) or through one (1) or more subcontractors (pursuant to Section 3.7); and

(b) the exclusive rights to otherwise practice and license the Cytokinetics Technology and Cytokinetics' interest in the Collaboration Intellectual Property outside the scope of the licenses granted to Astellas under Section 3. 1.

3.4 License to Cytokinetics. Subject to the terms and conditions of this Agreement, Astellas hereby grants to Cytokinetics the following licenses [*] under Astellas Technology and Astellas' interest in the Collaboration Intellectual Property:

(a) to Develop Tirasemtiv and Product in the Field pursuant to the Development Plan, [*];

(b) to use, sell, offer for sale, import and otherwise Commercialize Tirasemtiv and Product in the Field in the Cytokinetics Territory pursuant to the Commercialization Plan, [*];

(c) to perform Medical Affairs Activities for Tirasemtiv and Product in the Cytokinetics Territory, pursuant to the Medical Affairs Plan, [*]; and

(d) to Manufacture or have Manufactured Tirasemtiv and Product anywhere in the world, which license shall be [*] and [*].

3.5 Territory Adjustment.

(a) In the event that [*] wishes to grant to any Third Party the right to Commercialize the Product in [*], [*] shall notify [*] in writing and offer [*] the option to include such country into the [*]. If [*] notifies [*] within [*] days after the receipt of such notice that [*] is interested in such option, [*] shall, within [*] days after the receipt of such notice from [*], provide [*] with a reasonably detailed report of (i) all Development Costs incurred by or on account of [*] (allocated to such country in accordance with [*]) and (ii) [*] for such country (collectively (i) and (ii), the "**Specific Country Development Cost**"). In case that [*], the Development Costs [*] shall be reallocated to such country in accordance with [*].

(b) [*] may exercise such option by delivering a written exercise notice to [*] within [*] days after the receipt of the notice from [*], which exercise notice shall be accompanied by a payment to [*] of [*] of the Specific Country Development Cost. If [*] timely exercises such option and makes the required payment, then the country(ies) set forth in [*] notice shall be included in [*] and removed from [*]. If there are any ongoing [*] for such country, the Parties shall cooperate with each other to promptly transfer such [*], which shall then [*].

(c) If [*] fails to exercise such option and make the required payment, [*] shall have the right to negotiate and enter into an agreement with any Third Party to grant such Third Party the right to Develop and Commercialize the Product in such country, with no further obligations to [*] under this Section 3.5.

(d) For clarity, nothing in this Agreement shall prevent or limit [*] utilization of any Third Party contractors (e.g., contract research organizations, manufacturers, contract selling organizations, distributors, wholesalers) in connection with the Development and Commercialization of the Product [*] in accordance with Section 3.7 and such utilization of contractors shall not be deemed as granting the right to Develop and Commercialize the Product under this Section 3.5.

(e) For further clarity, this Section 3.5 shall not apply to [*], and [*] shall have the right to grant any Third Party the right to Develop and Commercialize Tirasemtiv and Product in any country in [*] without first offering [*] the option set forth in this Section 3.5.

3.6 No Implied Licenses; Negative Covenant. Except as set forth herein, neither Party shall acquire any license or other intellectual property interest, by implication or otherwise, under or to any trademarks, Patent Rights, Know-How, or other intellectual properties owned or Controlled by the other Party. For clarity, the license granted to each Party under any particular Patent Rights or Know-How Controlled by the other Party shall confer exclusivity to the Party obtaining such license only to the extent the Party granting such license Controls the exclusive rights to such Patent Rights or Know-How. Neither Party shall, nor shall permit any of its Affiliates or sublicensees to, practice any Patent Rights or Know-How licensed to it by the other Party outside the scope of the license granted to it under this Agreement.

3.7 Subcontractors. Each Party shall have the right to engage subcontractors for purposes of conducting activities assigned to it under this Agreement and grant a limited sublicense to such Third Parties solely for the purpose of performing such activities, provided that any such subcontractor is bound by written obligations of confidentiality and non-use consistent with this Agreement [*] and has agreed to [*] that relate to Tirasemtiv or Product or their use, manufacture or sale, which [*] as appropriate. Each Party shall remain directly responsible for any obligations under this Agreement that have been delegated or subcontracted to any subcontractor, and shall be directly responsible for the performance of its subcontractors.

3.8 365(n) Rights. All rights and licenses granted under or pursuant to any section of this Agreement, including the licenses granted under this Article 3 and Section 12.3, are and shall otherwise be deemed to be for purposes of Section 365(n) of the United States Bankruptcy Code (Title 11, U.S. Code), as amended (the "**Bankruptcy Code**"), licenses of rights to "**intellectual property**" as defined in Section 101(35A) of the Bankruptcy Code. Each Party shall retain and may fully exercise all of its respective rights and elections under the Bankruptcy Code. Each Party agrees that the other Party, as licensee of such rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code or any other provisions of applicable Law outside the United States that provide similar protection for "**intellectual property.**" Each Party further agrees that, in the event of the commencement of a bankruptcy proceeding by or against such Party under the Bankruptcy Code or analogous provisions of applicable Law outside the United States, to the extent permitted by Law, [*] the Development of Tirasemtiv and/or Product under this Agreement pursuant to the Development Plan, as appropriate, which, [*]. Additionally, upon request by the other Party, the bankruptcy Party shall [*].

3.9 Diversion. Each Party hereby covenants and agrees that it and its Affiliates shall not, and it shall contractually obligate (and use Diligent Efforts to enforce such contractual obligation) its sublicensees not to, directly or indirectly, promote, market, distribute, import, sell or have sold any Product, including via the Internet or mail order, to any Third Party or to any address or Internet Protocol address or the like in the other Party's territory. Neither Party shall engage, nor permit its Affiliates and sublicensees to engage, in any advertising or promotional activities relating to any Product directed primarily to customers or other buyers or users of such Product located in any country or jurisdiction in the other Party's territory, or solicit orders from any prospective purchaser located in any country or jurisdiction in the other Party's territory. If a Party or its Affiliates or sublicensees receives any order for a Product from a prospective purchaser located in a country or jurisdiction in the other Party's territory, such Party shall immediately refer that order to such other Party and shall not accept any such orders. Neither Party shall, nor permit its Affiliates and sublicensees to, deliver or tender (or cause to be delivered or tendered) any Product for sale in the other Party's territory. So long as a Party complies with its obligations set forth in this Section 3.9, the use of the Product by end-users outside such Party's territory shall not, by itself, be deemed such Party's non-compliance with its obligations under this Section 3.9.

3.10 [*].

(a) Except as set forth in Section [*], [*] shall [*], or [*] or [*] that [*], other than [*] or [*] (including [*] in the event of [*]).

(b) If either Party [*] and if such [*], as of the [*] such Party would [*] set forth in Section [*], then such Party shall [*] either (i) [*] of this Agreement, in which event [*] Tirasemtiv and/or Product under this Agreement and subject to the terms and conditions hereunder and any [*] the Research, Development, Manufacture or Commercialization of [*], or (ii) [*]. Such Party's [*] shall not be deemed [*] set forth in this Section 3.10; provided that such Party [*] under this Agreement and [*] the other Party [*] as used in this Section 3.10(b), means [*] by such Party [*].

ARTICLE 4
DEVELOPMENT

4.1 General. Subject to the terms and conditions of this Agreement, the Parties shall collaborate with respect to the Development of Tirasemtiv and Product in the Field for Regulatory Approval under the direction of the JDC and pursuant to the Development Plan, as set forth in more details below.

4.2 Development Plan.

(a) The Development of Tirasemtiv and Product under this Agreement (the "**Development Program**") shall be conducted pursuant to a comprehensive written global Development plan (the "**Development Plan**"), with Cytokinetics having final decision making authority pursuant to Section 2.11, subject to [*] described below. The Development Plan shall set forth the timeline and details of: (i) all preclinical and clinical Development activities to be conducted by the Parties as necessary to generate data sufficient to meet the requirements for Regulatory Approval of the Product for each of the Indications as agreed by the Parties and set forth in the Development Plan; (ii) the protocol synopsis for each clinical trial included in such Development Plan; (iii) a Manufacturing plan; and (iv) any other Development activities that the Parties agree to pursue in collaboration for Tirasemtiv and Product. The Parties agree that the Development Plan shall contain detailed plans for at least the initial [*] covered by the Development Plan. The Development Plan shall include a coordinated development and regulatory strategy, including the Parties' respective roles in the development of each Product and the countries in which Development of Product will occur. The Development Plan shall also set forth a detailed budget of the Development activities to be [*] (the "**Development Budget**"). Within thirty (30) days after the Effective Date, Cytokinetics shall prepare the initial Development Plan, which shall include the development plan provided by Cytokinetics to Astellas under the 2014 Agreement at the time when the Early Data Package or Late Data Package (as applicable) for the Option exercise is provided by Cytokinetics to Astellas under the 2014 Agreement.

(b) From time to time during the Term (but no less than annually), the JDC shall prepare and approve updates and amendments, as appropriate, to the then-current Development Plan (including Development Budget). By [*] of each calendar year starting on [*] or the Effective Date, whichever is later, the JDC shall agree upon a proposed [*] for the following Astellas fiscal year. Astellas shall use good faith efforts to [*]. Annual updates shall be finally approved no later than [*] before the beginning of next calendar year. Once approved by the JDC, such revised Development Plan shall replace the prior Development Plan.

(c) Astellas shall not conduct any Development and/or Commercialization activities with respect to any Product in any Indication other than ALS without the prior written consent of Cytokinetics. Cytokinetics shall have the right to conduct Development and/or Commercialization activities under the Development Plan or the Commercialization Plan as appropriate with respect to the Product in Indications other than ALS, provided that [*].

(d) If the terms of the Development Plan contradict, or create inconsistencies or ambiguities with, the terms of this Agreement, then the terms of this Agreement shall govern.

4.3 Allocation of Development Responsibilities. The Development Plan shall allocate Development responsibilities of Tirasemtiv and Product between the Parties as follows:

(a) Cytokinetics Responsibilities. Cytokinetics shall be primarily responsible for and shall lead (i) all Development works necessary to obtain Regulatory Approval of the Product by both the FDA and the EMA (the "**Cytokinetics Global Development Activities**"), and (ii) additional Development works to support country specific Regulatory Approval of the Product in the Cytokinetics Territory (the "**Cytokinetics Country-Specific Development Activities**") ((i) and (ii) together, the "**Cytokinetics Development Activities**"). For clarity, Cytokinetics Global Development Activities include that certain open-label extension study of the Product referred to as CY 4033.

(b) **Astellas Responsibilities**. Astellas shall be primarily responsible for and shall lead additional Development works to support country specific Regulatory Approval of the Product in the Astellas Territory (the "**Astellas Development Activities**").

(c) The Party designated to lead the development activities (which include regulatory affairs, KOL activities, pre-launch medical affairs and manufacturing in connection with such development activities) as specified above shall [*] with respect to such development activities pursuant to Section [*]. Neither Party shall [*] for its own country-specific activities in a manner that would have a material adverse effect on the Product in the other Party's territory.

4.4 **Development Costs Sharing**. Astellas shall be committed to co-funding twenty-five percent (25%) of the activities and costs in accordance with the initial Development Plan prepared by Cytokinetics pursuant to Section 4.2(a). Subject to Section 4.5, the Parties shall share (75% Cytokinetics:25% Astellas) of all Development Costs incurred by or on account of Cytokinetics to conduct the Cytokinetics Development Activities. Astellas shall be solely responsible for the cost and expenses it incurs to conduct the Astellas Development Activities.

4.5 **[*]**. In the event that [*] with respect to the [*], [*] shall [*] to the extent set forth below in this Section 4.5. [*] within [*] days after [*].

(a) If [*] in a manner that [*] agreed upon [*], then [*]. If [*] shall [*] in accordance with Section [*].

(b) If [*] or [*], then, subject to Section [*], [*]. If [*], such [*].

(c) If [*] or [*], then, subject to Section [*], [*]. If [*] shall [*] in accordance with Section [*].

(d) Notwithstanding the foregoing, [*] for any [*] in the [*] prior to [*] for which [*]. [*] shall continue to [*] for such [*] after [*].

4.6 **Diligence**. Each Party shall use Diligent Efforts to conduct the Development activities assigned to it under the Development Plan. Without limiting the foregoing, [*], provided that [*] to the extent that [*] and [*]. If [*], [*] shall [*].

4.7 **Development Records**. Each Party shall maintain complete, current and accurate records of all Development activities conducted by it hereunder, and all data and other information resulting from such activities. Such records shall fully and properly reflect all work done and results achieved in the performance of the Development activities in good scientific manner [*]. Each Party shall document all non-clinical studies and clinical trials in formal written study reports according to applicable Laws and national and international guidelines (e.g., ICH, GCP, GLP, and GMP). Each Party shall have the right to review and copy such records maintained by the other Party at reasonable times and to obtain access to the original [*].

4.8 Data Exchange and Development Reports. In addition to adverse event and safety data reporting obligations pursuant to Section 5.5, each Party shall promptly provide the other Party with copies of all data and results generated by or on behalf of such Party in the course of performing the Development hereunder (including final reports), and including, in each case of data arising from clinical trials, [*] as the JDC may agree from time to time. The Party receiving such data shall have the right to use and reference such data to perform its obligations or to exercise its rights under this Agreement. Each Party shall provide the JDC with regular reports detailing its Development for the Product, and the results of such Development at each regularly scheduled JDC meeting. The Parties shall discuss the status, progress and results of each Party's Development at such JDC meetings.

4.9 Advisory Panels; Medical Education Activities. The Development Plan may also provide for advisory panels with key opinion leaders with respect to the Development of Product to be held by one or both Parties. The Party organizing the advisory panel shall give the other Party written notice at least [*] in advance of any such advisory panel meetings, and the other Party shall have the right to attend such meetings, except that [*].

4.10 Development Project Team. The Parties shall establish a project team (the "**Development Project Team**") that will be responsible for managing, reviewing and implementing the performance of the day to day activities of both Parties for all stages of the Development Program, including review and decision making regarding CMC, toxicology, clinical trial designs and regulatory filings and strategy. Each Party shall have representation on the Development Project Team throughout the Development Program. The Development Project Team shall be subordinate to and governed by the JDC (except with respect to CMC issues, with respect to which the Development Project Team shall be subordinate to and governed by the JMC).

ARTICLE 5
REGULATORY

5.1 Regulatory Responsibilities. The Development Plan shall set forth the regulatory strategy for seeking Marketing Approval for Tirasemtiv and Product by the FDA, EMA and other Regulatory Authorities in [*] as agreed upon by the Parties. Cytokinetics shall be responsible for and shall lead all regulatory activities necessary to obtain and maintain Regulatory Approval of Tirasemtiv and Product in the Cytokinetics Territory and the Parties shall share the cost and expense of such regulatory activities as part of the Development Cost sharing (subject to [*]). Astellas shall be responsible for and shall lead all regulatory activities necessary to obtain and maintain Regulatory Approval of Tirasemtiv and Product in the Astellas Territory, at Astellas' own cost and expense. Except as otherwise provided herein or required by applicable Law, [*] shall be responsible for the preparation and submission of any and all Regulatory Materials for Tirasemtiv and Product [*] all such Regulatory Materials, and [*] shall submit any Regulatory Materials to, or communicate with, any Regulatory Authority [*] regarding Tirasemtiv or Product.

5.2 Cooperation. Each Party shall cooperate reasonably with the other Party with respect to key regulatory activities relating to Tirasemtiv and Product, shall provide such other Party with all reasonable assistance in the preparation and filing of Regulatory Materials relating to Tirasemtiv and Product, and shall keep such other Party reasonably and timely informed of its preparation and submission of all Regulatory Materials relating to Tirasemtiv and Product and the Regulatory Authorities' review of such Regulatory Materials. Without limiting the foregoing, each Party:

(a) shall consult with the other Party through the JDC or JCC, as applicable, regarding regulatory matters pertaining to [*] Regulatory Materials [*] relating to Tirasemtiv and Product, including plans, strategies, filings, reports, updates and supplements in connection therewith. As used herein, "[*] **Regulatory Materials**" means IND and MAA filings, [*] or materials that: (i) are [*] a Regulatory Authority; (ii) contain [*] such Regulatory Authority; (iii) contain [*] to such Regulatory Authority; or (iv) [*] the relevant Tirasemtiv or Product or its Development or Commercialization;

(b) shall provide the other Party with drafts of any [*] Regulatory Materials for Tirasemtiv and Product to be submitted by such Party to the Regulatory Authority in [*] prior to submission for review and comment (or if [*] such as in the event of [*] by Regulatory Authority that [*] but in no event in a manner that would [*] such reporting or response), and shall consider in good faith any comments received from the other Party;

(c) shall provide the other Party with copies of [*] Regulatory Materials ([*] for each calendar month as well as copies of [*] correspondence ([*]) received from the Regulatory Authority [*] pertaining to Tirasemtiv and Product for [*] Business Days [*] to a Regulatory Authority that: (i) is [*] from a Regulatory Authority or is in response to an administrative request or inquiry from a Regulatory Authority; (ii) contains [*] provided to such Regulatory Authority; (iii) contains [*] to such Regulatory Authority; (iv) [*] the receiving Regulatory Authority [*] to the relevant Tirasemtiv or Product or its Development or Commercialization; and (v) is required by law or regulation to be periodically filed to an existing IND or MAA. [*] includes correspondence such as [*], notifications and non-substantive amendments, but excludes all [*]; and

(d) shall provide the other Party written minutes or other records of any oral key discussions (such as Type A, Type B and Type C meetings in the U.S. and foreign similar or equivalent meetings) with the Regulatory Authority [*] pertaining to Tirasemtiv and Product promptly after any such discussion.

For purpose of Section 5.2, the Parties shall establish a direct line of contact between the persons responsible for the overall regulatory strategies and activities for the Product within each Party.

If any [*] to be provided under Section [*] was originally [*], the providing Party shall provide [*] to the receiving Party at the [*] except the case where such Party reasonably believes such [*] such as in the event of [*] by Regulatory Authority that [*].

5.3 Meetings with Regulatory Authorities. Each Party shall provide the other Party with at least [*] days advance notification of key in-person meeting or teleconference (such as [*] in the U.S. and foreign similar or equivalent meetings) with the Regulatory Authorities [*] that relates to the Development of Tirasemtiv and Product under the Development Plan. Such other Party shall have the right, but not the obligation, to have its representatives attend (but, unless otherwise requested by the Party responsible for such meeting, not participate in) such meetings; provided however that Astellas shall not have the right to attend any such meeting in the Cytokinetics Sole Territory.

5.4 Product Complaints. Each Party shall be responsible for handling product complaints (except for those covered by Section 5.5 below) arising from the Development and Commercialization of Tirasemtiv and Product in its territory in compliance with all applicable Laws. Each Party shall promptly provide the other Party with written notice of any such product complaint received by such Party in its Territory. Upon request of either Party, the Parties shall convene a meeting to discuss such product complaint and collaborate to resolve any such product complaint.

5.5 Adverse Events Reporting. Promptly following the Effective Date and, in any event, as otherwise may be required to satisfy regulatory requirements, the Parties shall enter into a pharmacovigilance and adverse event reporting agreement setting forth the worldwide pharmacovigilance procedures for the Parties with respect to the Product, such as safety data sharing, adverse events reporting and prescription events monitoring (the "**Pharmacovigilance Agreement**"). Such procedures shall be in accordance with, and enable the Parties to fulfill, local and national regulatory reporting obligations under applicable Laws. Cytokinetics shall establish the global safety database for the Product, and shall maintain such global safety database for so long as such Product is under Development and/or Commercialization hereunder. The [*] shall be [*]. Each Party shall hold the primary responsibility for reporting quality complaints, adverse events and safety data related to the Product in its territory to such database and to the applicable Regulatory Authorities in its territory, as well as responding to safety issues and to all requests of Regulatory Authorities in its territory related to the Product, in each case [*] and to the extent required by the applicable Law. Each Party agrees to comply with its respective obligations under the Pharmacovigilance Agreement and to cause its Affiliates, licensees and sublicensees to comply with such obligations.

5.6 Notification of Threatened Action. Each Party shall immediately notify the other Party of any information it receives regarding any threatened or pending action, inspection or communication by any Regulatory Authority, which may affect the safety or efficacy claims of any Product or the continued marketing of any Product. Upon receipt of such information, the Parties shall promptly consult with each other in an effort to arrive at a mutually acceptable procedure for taking appropriate action.

5.7 Remedial Actions. Each Party shall notify the other immediately, and promptly confirm such notice in writing, if it obtains information indicating that any Product may be subject to any recall, corrective action or other regulatory action with respect to the Product taken by virtue of applicable Law (a "**Remedial Action**"). The Parties shall fully assist each other in gathering and evaluating such information as is necessary to determine the necessity of conducting a Remedial Action. Each Party shall, and shall ensure that its Affiliates and sublicensees shall, maintain adequate records to permit the Parties to trace the Manufacture, distribution and use of the Product. Each Party shall have sole discretion with respect to any matters relating to any Remedial Action in its territory, including the decision to commence such Remedial Action and the control over such Remedial Action, at its cost and expense.

ARTICLE 6
MANUFACTURING AND SUPPLY

6.1 General. Cytokinetics shall Manufacture and supply, itself and/or through a Third Party manufacturer, (a) all Tirasemtiv and Product for Development and Commercialization use by Cytokinetics and (b) all Tirasemtiv for Development and Commercialization use by Astellas, except that Astellas shall have the right to elect to Manufacture (by itself or through its Third Party contractor) the Product for Development and/or Commercialization use using Tirasemtiv supplied by Cytokinetics. For clarity, Astellas shall not have the right to Manufacture Tirasemtiv and shall purchase all its requirement of Tirasemtiv from Cytokinetics. Notwithstanding the foregoing, in case that [*], Cytokinetics and Astellas shall discuss in good faith the allocation of responsibility for Manufacture of Tirasemtiv. Astellas shall be responsible for packaging and labelling of the Product for the use for its Development and Commercialization of the Product in Astellas Territory.

6.2 Supply Coordination. The Manufacture of Tirasemtiv and Product, including all process and formulation development in connection therewith, including CMC Activities, shall be overseen and coordinated by the JMC and conducted pursuant to the Manufacturing plan included in the Development Plan and the Commercialization Plan. At each regularly scheduled JMC meeting, each Party shall provide the JMC with reports summarizing its Manufacturing activities and the results of such activities and [*] Tirasemtiv and Product [*] by such Party under this Agreement [*]. The Parties shall discuss expansion of the worldwide Manufacturing capacity over time and, in any event, in the event that Cytokinetics' current Manufacturing capacity is unable to meet the Parties' anticipated or actual requirement for Tirasemtiv and Product. The terms and conditions of such supply ([*] for the supply of bulk drug substance of Tirasemtiv or [*] for the supply of finished Product, as applicable) shall be set forth in a separate supply agreement to be agreed by the Parties. In case Astellas desires to change the specification or manufacturing method of the Product for the use of its Development or Commercialization of the Product in Astellas Territory, JMC discuss the allocation of activities necessary for the CMC activities necessary for the change. For clarity, [*] the specification or manufacturing method of the Product for the use of its Development or Commercialization of the Product [*].

6.3 Technology Transfer. In the event that Astellas elects to Manufacture the Product using Tirasemtiv supplied by Cytokinetics, the JMC shall establish the procedures for Cytokinetics to effect the transfer to Astellas of the Cytokinetics Know-How that is then being used by Cytokinetics or its Third Party manufacturer in the Manufacture of the Product (but not Tirasemtiv except for the case [*]), to the extent such Cytokinetics Know-How is not already in Astellas' possession. Cytokinetics shall conduct such technology transfer as soon as practicable in accordance with such procedures, [*]. In connection with the transfer of Know-How under this Section 6.3, Cytokinetics shall provide reasonable technical assistance at Astellas' request [*].

6.4 Manufactured Products. Each Party represents and warrants that all Tirasemtiv and Product Manufactured and supplied by such Party for clinical trial and/or commercial use under this Agreement shall: (a) meet the applicable specifications; (b) be Manufactured in accordance with current Good Manufacturing Practices; and (c) be Manufactured in accordance with all applicable Laws, including any Governmental Authority requirements then in effect.

ARTICLE 7
COMMERCIALIZATION

7.1 General. Subject to the terms and conditions of this Article 7, each Party shall have the sole and exclusive responsibility, at its own expense, for all aspects of the Commercialization of the Product in its territory, including: (a) developing and executing a commercial launch and pre-launch plan, (b) negotiating with applicable Governmental Authorities regarding the price and reimbursement status of the Product; (c) marketing and promotion; (d) booking sales and distribution and performance of related services; (e) handling all aspects of order processing, invoicing and collection, inventory and receivables; (f) providing customer support, including handling medical queries, and performing other related functions; and (g) conforming its practices and procedures to applicable Laws relating to the marketing, detailing and promotion of the Product in its territory.

7.2 Commercialization Plan.

(a) The Commercialization of the Product under this Agreement in Cytokinetics Territory and Astellas Territory shall be coordinated under a Commercialization plan (the "**Commercialization Plan**"). The Commercialization Plan shall include a reasonably detailed description of and anticipated timeline for the Parties', their respective Affiliates' and sublicensees' Commercialization activities with respect to the Product in their respective territory, including pre-launch plans, launch plans, market analytics, product forecasts, pricing assumptions and competitive intelligence.

(b) No later than [*], or promptly following the Effective Date (if the Effective Date occurs during such [*] period), the JCC shall prepare and approve the initial Commercialization Plan. Thereafter, from time to time during the Term (but no less than annually), the JCC shall prepare and approve updates and amendments, as appropriate, to the then-current Commercialization Plan to reflect changes in its plans, including in response to changes in the marketplaces and related product forecasts, relative success of the Product and other relevant factors influencing such plans and activities. The JCC shall agree on the costs to be reimbursed in accordance with requests made under Section [*] (if any) and shared costs (if any) to be included in the Commercialization Plan with appropriate lead times for planning purposes, including budgeting and a mechanism for payment from one Party to the other Party. By [*] of each calendar year starting on [*] or the Effective Date whichever is later, the JCC shall agree upon a proposed budget for reimbursable and/or shared costs (if any) for the following Astellas fiscal year. Astellas shall use good faith efforts to [*]. Annual updates shall be finally approved no later than [*] before the beginning of next calendar year. Once approved by the JCC, such revised Commercialization Plan shall replace the prior Commercialization Plan.

(c) If the terms of the Commercialization Plan contradict, or create inconsistencies or ambiguities with, the terms of this Agreement, then the terms of this Agreement shall govern.

7.3 Commercial Diligence.

(a) Each Party shall use Diligent Efforts to Commercialize the Product [*]. Without limiting the foregoing, each Party shall [*], as applicable. Astellas shall [*] the Product [*] within (i) for [*], [*] after the [*]; or (ii) for [*], [*] after the [*], in each case subject to [*] (e.g., [*] or [*] in order to [*] and provided that [*]) (the [*]). If [*], then Astellas shall [*] the Product [*], subject to [*] (e.g., [*] or [*] in order to [*] and provided that [*] (the [*]). Notwithstanding the foregoing, [*] Commercialization of the Product [*] during the period of time [*] and/or [*], provided further that [*] and/or [*] and [*].

(b) [*] the Product [*] or [*], as applicable, it shall give written notice to [*], together with [*] with respect to the Commercialization of the Product [*]. The Parties shall meet and confer in good faith [*] and seek to agree on (i) [*] the Product [*], or (ii) whether [*] the Product [*] in accordance with Section [*]. If the Parties [*] under Section [*] the Product [*] the Product [*] the Product [*] within the applicable time period. If [*] shall be deemed [*] pursuant to Section [*] with respect to the Product [*] and [*], provided that [*] within the applicable time period. If [*] shall continue to [*] the Product [*].

7.4 Collaboration and Coordination.

(a) The Parties recognize that the Collaboration may benefit from the coordination of certain activities in support of the Commercialization of the Product in both the Cytokinetics Territory and Astellas Territory. As such, the Parties shall coordinate such activities where appropriate, which may include scientific and medical communication and product positioning. In particular, each Party shall share with the other party information pertaining to [*] through the JCC and such other Party shall [*], provided that, the Party [*] shall not be required to share any [*] for which [*], and if such Party [*] in order to [*] and to [*], then the Party [*] shall [*].

(b) Each Party shall keep the other Party timely informed on the status of any application for pricing approval in its territory, including any discussion with Regulatory Authority with respect thereto. Each Party shall have the right to determine the price of the Product sold in its territory and neither Party shall have the right to direct, control or approve the pricing of the Product in the other Party's territory. For clarity, each Party shall have the sole right, at its discretion, to engage in any early access program and/or named patient programs in the Cytokinetics Territory or Astellas Territory, as applicable, at its own cost, and such programs shall not require the other Party's approval and/or input and shall not be part of the Development Plan or Commercialization Plan or subject to the oversight of any Committee.

7.5 Patent Marking. Each Party shall mark the Product with patent information in each country, in accordance with the applicable Law and to the extent customary in such country, and shall require all of its Affiliates and sublicensees to do the same. To the extent permitted by applicable Law and customary, Astellas shall indicate on Product packaging, advertisement and promotional materials that such Product is licensed from Cytokinetics.

7.6 Reports. Each Party shall update the JCC at each regularly scheduled JCC meeting regarding its Commercialization of the Product. Each such update shall be in a form to be agreed by the JCC and shall summarize its, its Affiliates' and its sublicensees' significant Commercialization activities with respect to the Product in its territory. The update by Astellas shall be at a level of detail reasonably requested by Cytokinetics and sufficient to enable Cytokinetics to determine Astellas' compliance with its diligence obligations pursuant to Section 7.3.

ARTICLE 8
MEDICAL AFFAIRS ACTIVITIES

8.1 General. Each Party shall have the primary responsibility, at its own expense, for all aspects of the Medical Affairs Activities of the Product in its territory and shall have the final decision making authority with respect to Medical Affairs Activities of the Product in its territory.

8.2 Diligence. Each Party shall use Diligent Efforts to perform Medical Affairs Activities for the Product [*], in which it seeks and/or receives Marketing Approval and to the extent appropriate [*].

8.3 Medical Affairs Plan.

(a) The Parties shall coordinate with respect to the strategy and implementation of the Medical Affairs Activities with respect to the Product in Cytokinetics Territory and Astellas Territory under a written plan for the Medical Affair Activities for the Product (the "**Medical Affairs Plan**"). The Medical Affairs Plan shall include a reasonably detailed description of and anticipated timeline for the Parties', their respective Affiliates' and sublicensees' Medical Affairs Activities with respect to the Product.

(b) No later than [*], or promptly after the Effective Date (if the Effective Date occurs during such [*] period), the JMAC shall prepare and approve the initial Medical Affairs Plan. Thereafter, the JMAC shall periodically (at least on an annual basis) prepare and approve updates and amendments to the Medical Affairs Plan.

(c) Each Party shall provide the other Party with at least [*] days advance notification of key in-person meeting or teleconference of advisory panels with key opinion leaders that relates to the Development or Commercialization of Tirasemtiv and Product. Such other Party shall have the right, but not the obligation, to have its representatives attend (but, unless otherwise requested by the Party responsible for such meeting, not participate in) such meetings; provided however that Astellas shall not have the right to attend any such meeting in the Cytokinetics Sole Territory.

8.4 Reports. Each Party shall update the JMAC at each regularly scheduled JMAC meeting regarding its Medical Affairs Activities of the Product. Each such update shall be in a form to be agreed by the JMAC and shall summarize its, its Affiliates' and its sublicensees' significant Medical Affairs Activities with respect to the Product in its Territory. The update by Astellas shall be at a level of detail reasonably requested by Cytokinetics and sufficient to enable Cytokinetics to determine Astellas' compliance with its diligence obligations pursuant to Section 8.2.

ARTICLE 9
FINANCIAL PROVISIONS

9.1 Late Option Exercise Fee. In the event Astellas effectuates the Late Option Exercise (as defined in the 2014 Agreement), and Astellas exercises the Option after the receipt of the approval letter for the Product from the EMA but before the approval letter for the Product from the FDA, then in accordance with the 2014 Agreement, Astellas shall pay to Cytokinetics the second Option payment of [*] within thirty (30) days after the receipt of the approval letter for the Product from the FDA.

9.2 Sharing of Development Costs. The Parties shall share the Development Costs incurred by or on account of Cytokinetics to conduct the Cytokinetics Development Activities (75% Cytokinetics:25% Astellas) as follows:

(a) Advance Payment. Within [*] of the Effective Date, Astellas shall pay to Cytokinetics an amount equal to Astellas' share (i.e., twenty-five percent (25%)) of Cytokinetics' estimated Development Costs (as set forth in the initial Development Budget) for the then-current calendar quarter. Thereafter, for each calendar quarter in which Cytokinetics is anticipated to conduct Cytokinetics Development Activities under the Development Plan, Cytokinetics shall submit to Astellas an invoice setting forth Cytokinetics' estimated Development Costs based on the then-current Development Budget for such calendar quarter, no later than [*] Business Days following the first day of such calendar quarter (the "**Development Advance Invoice**").

(b) True-Up. Within [*] days after the end of each calendar quarter in which Cytokinetics has conducted Cytokinetics Development Activities under the Development Plan, Cytokinetics shall submit to Astellas a reasonably detailed reconciliation report setting forth the actual Development Costs incurred by or on account of Cytokinetics to conduct Cytokinetics Development Activities in such calendar quarter and any credits or deficits from the corresponding Development Advance Invoice previously provided for such quarter (the "**Development True-Up Report**"). If the estimated Development Costs paid by Astellas pursuant to Section 9.2(a) above for such prior calendar quarter is less than Astellas' share (i.e., twenty-five percent (25%)) of Cytokinetics' actual Development Costs for such quarter, then Astellas shall pay the deficit to Cytokinetics as described in this Section 9.2(b) to the extent such amounts do not exceed the then-current Development Budget by more than [*]. If the estimated Development Costs paid by Astellas pursuant to Section 9.2(a) above for such prior calendar quarter is more than Cytokinetics' actual Development Costs for such quarter, the excess shall be credited toward the Development Advance Invoice for the current calendar quarter (except where such invoice is the final such invoice to be provided by Cytokinetics, in which case the excess shall be refunded by Cytokinetics to Astellas within [*] days after the delivery of such invoice).

(c) Timing of Payment. For ease of administration, Astellas shall pay Cytokinetics a single payment reflecting the amount due under the Development Advance Invoice for the current calendar quarter plus any deficits (or less any credits) reflected in the Development True-Up Report for the prior calendar quarter within the later of (1) [*] days of Astellas' receipt of such Development Advance Invoice, or (2) [*] days of Astellas' receipt of such Development True-Up Report.

9.3 Development Milestone Payments.

(a) Development Milestone. Subject to the remainder of this Section 9.3, Astellas shall pay to Cytokinetics non-refundable, non-creditable payments set forth in the table below, on an Indication-by-Indication basis, upon [*] achievement of each milestone event in such Indication(s) (whether by or on behalf of Astellas or its Affiliates or sublicensees) in accordance with Section 9.3(b):

Milestone Event	Milestone Payment	
	For initial Indication	For each subsequent Indication
1) [*] in Astellas Territory in Japan	[*]	[*]
2) [*] in Astellas Territory in Japan	[*]	[*]
3) [*] in Astellas Territory in Asia outside Japan	[*]	[*]
4) [*] in Astellas Territory in Asia outside Japan	[*]	[*]
5) [*] in Astellas Territory in Americas	[*]	[*]
6) [*] in Astellas Territory in Americas	[*]	[*]
7) [*] in Astellas Territory in EMEA	[*]	[*]
8) [*] in Astellas Territory in EMEA	[*]	[*]
Total	$100,000,000	$50,000,000

(i) For clarity, the above milestone events are for each of the four Regions defined in Section 1.59.

(ii) If in any particular Region, if [*], but not [*], then the [*] applicable to the [*] in all of the countries listed as potential Significant Markets in such Region (as set forth in Section 1.64) shall be increased by: (A) [*] with respect to the [*] and/or (B) [*] with respect to the [*], in each case for [*], and [*] of the amounts specified for the milestone payments for the Product applicable to such Region shall be paid if such milestone events [*] or any [*] the achievement of such milestone events for the Product.

(b) Notice and Payment. Astellas shall notify Cytokinetics in writing within [*] days after the achievement of any milestone set forth in this Section 9.3. Astellas shall pay to Cytokinetics the applicable milestone payments within [*] days after the achievement of such milestone by Astellas or its Affiliates or sublicensees.

9.4 Royalty Payments.

(a) Cytokinetics Royalty Rates. Subject to the other terms of this Section 9.4 during the Royalty Term, Cytokinetics shall make quarterly non-refundable, non-creditable royalty payments to Astellas on the Net Sales of the Product sold in Cytokinetics Royalty Territory at the applicable royalty rate set forth below. For clarity, no royalty shall be due for sale of the Product in Cytokinetics Sole Territory.

Annual Net Sales of Product in Cytokinetics Royalty Territory in a Cytokinetics fiscal year	Royalty Rate
Portion less than [*]	[*]
Portion equal to or greater than [*] and less than [*]	[*]
Portion equal to or greater than [*]	[*]

(b) Royalty Adjustment to Cytokinetics Royalty Rate.

(i) If [*], then the royalty rates for each royalty tier in Section 9.4(a) shall be [*] (i.e., from [*] to [*] for the first tier).

(ii) If [*], then the royalty rates for each royalty tier in Section 9.4(a) shall be [*] until [*] (i.e. [*] if [*]), after which [*] this Section 9.4(b)(ii) shall no longer apply. For clarity, [*] clause (i) and (ii) are not exclusive and may apply at the same time.

(iii) If and for so long as [*], and [*], the royalty rates shall be [*].

(iv) If and for so long as [*], and [*], the applicable royalty rate shall be [*].

(v) The royalty payment to Astellas shall be [*] until [*]. For the purpose of this clause, "[*]" means [*] and [*], including [*] and [*].

(c) **Astellas Royalty Rates**. Subject to the other terms of this Section 9.4 during the Royalty Term, Astellas shall make quarterly non-refundable, non-creditable royalty payments to Cytokinetics on the Net Sales of the Product sold in Astellas Territory at the applicable royalty rate set forth below (unless the Parties agree on an alternative share of commercial returns for specified countries (e.g., transfer payment plus margin)).

Annual Net Sales of Product in Astellas Territory in an Astellas fiscal year	Royalty Rate
Portion less than [*]	[*]
Portion equal to or greater than [*] and less than [*]	[*]
Portion equal to or greater than [*]	[*]

(d) **Royalty Term**. Each Party's royalty payment obligations under this Agreement shall commence upon the First Commercial Sale of the first Product anywhere in such Party's territory by such Party, its Affiliates or its sublicensees, and shall continue, on a Product-by-Product and country-by-country basis, until the latest of (i) the expiration of the last to expire Valid Claim [*] Tirasemtiv in such country; (ii) the expiration of the last to expire Valid Claim [*] Tirasemtiv and/or Product, provided that [*] with respect to such Product [*]; (iii) the expiration of any Regulatory Exclusivity granted with respect to such Product in such country; and (iv) [*] years after the First Commercial Sale of such Product in such country (the "**Royalty Term**"). For the purpose of determining the Royalty Term, all single agent Products containing Tirasemtiv shall be deemed one Product, and all Combination Products containing the same combination of active ingredients shall be deemed one Product, in each case regardless of their doses, forms, formulations, packaging and route of administration.

(e) **[*]**.

(i) If a Product is [*] in a country during the applicable Royalty Term [*] with respect to such Product [*], and (i) such [*] in such country [*] or (ii) such [*] for such Product in such country [*] in such country, then the [*] of such Product in such country [*] so long as the [*] with respect to such Product [*] in such country [*].

(ii) If, for a particular Product in a particular country, [*] the First Commercial Sale of such Product in such country: (A) there is [*], such Product or Tirasemtiv contained therein; and (B) the Royalty Term set forth in Section 9.4(d) [*] such Product [*] such Product or Tirasemtiv contained therein, then the applicable [*] for such Product shall [*] for so long as [*]. This Section 9.4(e)(ii) shall not [*].

(f) Basis for Royalty. This Section 9.4 is intended to provide for payments to each Party equal to the percentages of Net Sales set forth in this Section 9.4 for the duration of the Royalty Term. In establishing this payment structure, the Parties recognize, and Astellas acknowledges, the substantial value of the various actions and investments undertaken by Cytokinetics prior to the Effective Date and that Cytokinetics will undertake under this Agreement, and that the value of the Cytokinetics Technology licensed to Astellas hereunder resides substantially in Cytokinetics Know-How. As a result, the Parties attribute such value to Cytokinetics' leading proprietary knowledge in the subject matter, including trade secrets, preclinical and clinical data pertaining to Tirasemtiv and Product, and regulatory filings made by Cytokinetics prior to the Effective Date, in each case created or generated by Cytokinetics through the expenditure of significant resources and as a result of Cytokinetics' unique innovative capabilities. The Parties agree that because Cytokinetics is not separately compensated under this Agreement for such additional benefits, the royalties set forth above are appropriate for the duration of the Royalty Term. The Parties have agreed to the payment structure set forth herein as a convenient and fair mechanism for both Parties in order to compensate Cytokinetics for these additional benefits as part of the overall consideration for Cytokinetics to enter into this Agreement.

(g) Royalty Reports and Payment. Within [*] days after each calendar quarter, commencing with the calendar quarter during which the First Commercial Sale of the first Product is made anywhere in the world, each Party shall provide the other Party with a report that contains the following information for the applicable calendar quarter, on a Product-by-Product and country-by-country basis: (i) the amount of gross sales of the Product, (ii) an itemized calculation of Net Sales showing deductions provided for in the definition of "**Net Sales**", (iii) a calculation of the royalty payment due on such sales, including [*] in accordance with Section [*], and (iv) the exchange rate for such country. Within [*] days after each calendar quarter, each Party shall pay in Dollars all royalties due to the other Party with respect to Net Sales by Astellas, its Affiliates and their respective sublicensees for such calendar quarter.

9.5 Currency; Exchange Rate. All payments to be made by a Party to the other Party under this Agreement shall be made in Dollars by bank wire transfer in immediately available funds to a bank account designated by written notice from the Party that receives the payment. The rate of exchange to be used in computing the amount of currency equivalent in Dollars for calculating Net Sales shall be made at the average quarterly rate as published by Bloomberg (based on 20:00 Tokyo time) for the applicable quarterly reporting period for which the payment is due, or such other source as the Parties may agree in writing. Each Party shall provide the other Party with written documentation of the applicable average quarterly rate, in English, along with the applicable royalty report under Section 9.4(g).

9.6 Late Payments. If a Party does not receive payment from the other Party of any sum due to it on or before the due date therefor, simple interest shall thereafter accrue on the sum due to such receiving Party from the due date until the date of payment at a [*] or the [*].

9.7 Taxes.

(a) Taxes on Income. Each Party shall be solely responsible for the payment of all taxes imposed on its share of income arising directly or indirectly from the activities of the Parties under this Agreement.

(b) Tax Cooperation. The Parties agree to cooperate with one another and use reasonable efforts to avoid or reduce tax withholding or similar obligations in respect of royalties, milestone payments, and other payments made by a Party to the other Party under this Agreement. To the extent such paying Party is required to deduct and withhold taxes on any payment to the other Party, such paying Party shall pay the amounts of such taxes to the proper Governmental Authority in a timely manner, and the sum payable to such other Party shall be increased to the extent necessary to ensure that such other Party receives a sum equal to the sum which it would have received had there been no such withholding tax. Notwithstanding the foregoing, if the paying Party is obliged to pay withholding taxes and the other Party reasonably foresees that it will be able to utilize as a tax credit any amounts withheld or deducted by such paying Party, such other Party shall immediately so notify and, upon such notice, with respect to the amount in question, such paying Party shall be released from the obligation to increase the amount pursuant to this Section 9.7. Such other Party shall provide such paying Party any tax forms that may be reasonably necessary in order for such paying Party to not withhold tax or to withhold tax at a reduced rate under an applicable bilateral income tax treaty, to the extent legally able to do so. Such other Party shall use reasonable efforts to provide any such tax forms to such paying Party in advance of the due date. Each Party shall provide the other with reasonable assistance (i) to enable the recovery, as permitted by Law, of withholding taxes or similar obligations resulting from payments made under this Agreement and (ii) in connection with any audit by any tax authority relating to this Agreement. In the event the paying Party increased the amount of its payment to the other Party to account for any withholding tax, and such other Party later utilizes any such amount withheld by such paying Party to achieve any tax saving for the benefit of such other Party in the form of a tax deduction, such other Party shall notify such paying Party in writing of the amount of such tax saving and such paying Party shall have the right to credit such amount of tax saving against its future payment obligations to such other Party.

9.8 Records and Audit Rights. Each Party shall maintain complete and accurate records in sufficient detail to permit the other Party to confirm the accuracy of the amount of Development Costs to be shared, royalty payments and other amounts payable under this Agreement. Upon reasonable prior notice, such records shall be open during regular business hours for a period of [*] years from the creation of individual records for examination by an independent certified public accountant selected by the auditing Party and reasonably acceptable to the audited Party for the sole purpose of verifying for the auditing Party the accuracy of the financial reports furnished by the audited Party pursuant to this Agreement or of any payments made, or required to be made, by or to the audited Party pursuant to this Agreement. Such audits not occur more often than once each calendar year. Such auditor shall not disclose the audited Party's Confidential Information to the auditing Party, except to the extent such disclosure is necessary to verify the accuracy of the financial reports furnished by the audited Party or the amount of payments to or by the audited Party under this Agreement. Any amounts shown to be owed but unpaid shall be paid within [*] days after the accountant's report, plus interest (as set forth in Section 9.6) from the original due date. The auditing Party shall bear the full costs of such audit unless such audit reveals an overpayment to, or an underpayment by, the audited Party that resulted from a discrepancy in the financial report provided by the audited Party for the audited period, which underpayment or overpayment was more than [*] of the amount set forth in such report, in which case the audited Party shall reimburse the auditing Party for the costs for such audit. If any such overpayment exceeds such [*] amount, then the auditing Party shall refund such amount to the audited Party within [*] days after the accountant's report. On the other hand, if any such overpayment does not exceed such [*] amount, the auditing Party shall have the right to credit the amount of such overpayment against its future payment obligations to the audited Party, provided that such future payments are expected.

ARTICLE 10
INTELLECTUAL PROPERTY RIGHTS

10.1 Ownership of Collaboration Intellectual Property.

(a) All Collaboration Intellectual Property shall be [*]. Each Party shall [*] in any Collaboration Intellectual Property [*] the other Party, subject to [*]. To the extent any Collaboration Intellectual Property is [*] a Party, such Party shall, [*] in such Collaboration Intellectual Property to the extent [*] the other Party [*]. To the extent any Patent Right [*] any Collaboration Intellectual Property [*] in such Patent Right [*].

(b) The Parties shall cooperate with respect to the filing, prosecution, maintenance and enforcement of Collaboration Patents through the JPC. This Agreement shall be deemed a joint research agreement under 35 U.S.C. §102(c) or §103(c), as applicable, and any foreign counterparts entered into for the purpose of researching, identifying and developing Tirasemtiv and Product under the terms set forth herein.

10.2 Disclosure of Collaboration Intellectual Property. Each Party shall promptly disclose to the other Party all Collaboration Intellectual Property, including all invention disclosures or other similar documents submitted to such Party by its, or its Affiliates', directors, officers, employees, agents or independent contractors relating to such Collaboration Intellectual Property, and shall also respond promptly to reasonable requests from the other Party for additional information relating to such Collaboration Intellectual Property.

10.3 Patent Prosecution.

(a) Cytokinetics Sole Patents.

(i) Cytokinetics shall be responsible for filing, prosecuting and maintaining the Cytokinetics Patents, [*]. Cytokinetics shall consult with Astellas and keep Astellas reasonably informed of the status of the Cytokinetics Patents and shall promptly provide Astellas with copies of material correspondence received from any patent authorities in connection therewith. In addition, Cytokinetics shall promptly provide Astellas with drafts of all proposed material filings and correspondences to any patent authorities with respect to the Cytokinetics Patents for Astellas' review and comment prior to the submission of such proposed filings and correspondences. Cytokinetics shall confer with Astellas and reasonably consider Astellas' comments prior to submitting such filings and correspondences, provided that Astellas shall provide such comments within [*] days of receiving the draft filings and correspondences from Cytokinetics. If Astellas does not provide comments within such period of time, then Astellas shall be deemed to have no comment to such proposed filings or correspondences. In case of disagreement between the Parties with respect to the filing, prosecution and maintenance of such Cytokinetics Patents, the final decision shall be made by Cytokinetics, subject to subsection (ii) below. For the purpose of this Article 10, "**prosecution**" shall include any post-grant proceeding including supplemental examination, post-grant review proceeding, inter parties review proceeding, patent interference proceeding, opposition proceeding, reexamination, patent term restoration (under but not limited to the U.S. Drug Price Competition and Patent Term Restoration Act), supplemental protection certificates or their equivalents, and patent term extensions.

(ii) Cytokinetics shall notify Astellas in writing of any decision to cease prosecution and/or maintenance of, any Cytokinetics Patents in any country in the Astellas Territory. Cytokinetics shall provide such notice at least [*] days prior to any filing or payment due date, or any other due date that requires action in order to avoid loss of rights, in connection with such Cytokinetics Patent in such country. Upon request by Astellas, Cytokinetics shall permit Astellas, at Astellas' discretion and expense, to continue prosecution or maintenance of such Cytokinetics Patent in such country, and for as long as Astellas assumes such prosecution and maintenance at its own costs, such Cytokinetics Patent shall be [*].

(b) Collaboration Patents.

(i) Cytokinetics shall be responsible for filing, prosecuting and maintaining any Collaboration Patents, [*]. Cytokinetics shall consult with Astellas and keep Astellas reasonably informed of the status of the Collaboration Patents and shall promptly provide Astellas with copies of material correspondence received from any patent authorities in connection therewith. In addition, Cytokinetics shall promptly provide Astellas with drafts of all proposed material filings and correspondences to any patent authorities with respect to the Collaboration Patents for Astellas' review and comment prior to the submission of such proposed filings and correspondences. Cytokinetics shall confer with Astellas and reasonably consider Astellas' comments prior to submitting such filings and correspondences, provided that Astellas shall provide such comments within [*] days of receiving the draft filings and correspondences from Cytokinetics. If Astellas does not provide comments within such period of time, then Astellas shall be deemed to have no comment to such proposed filings or correspondences. In case of disagreement between the Parties with respect to the filing, prosecution and maintenance of such Collaboration Patents, the final decision shall be made by Cytokinetics, subject to subsection (ii) below.

(ii) Cytokinetics shall notify Astellas in writing of any decision to cease prosecution and/or maintenance of, any Collaboration Patents in any country. Cytokinetics shall provide such notice at least [*] days prior to any filing or payment due date, or any other due date that requires action in order to avoid loss of rights, in connection with such Collaboration Patent. In such event, Cytokinetics shall permit Astellas, at its discretion and expense, to continue prosecution or maintenance of such Collaboration Patent in such country.

(c) Astellas Patents.

(i) Astellas shall be responsible for filing, prosecuting and maintaining the Astellas Patents, [*]. Astellas shall keep Cytokinetics reasonably informed of the status of the Astellas Patents.

(ii) Astellas shall notify Cytokinetics in writing of any decision to cease prosecution and/or maintenance of, any Astellas Patents in any country. Astellas shall provide such notice at least [*] days prior to any filing or payment due date, or any other due date that requires action in order to avoid loss of rights, in connection with such Astellas Patent. In such event, Astellas shall permit Cytokinetics, at its discretion and expense, to continue prosecution or maintenance of such Astellas Patent in such country and, after such notice by Astellas, such Astellas Patent shall be [*].

(d) Collaboration. When a Party assumes the responsibilities for the prosecution and maintenance of a Patent under Section 10.3(a)(ii), 10.3(b)(ii), 10.3(c)(ii) or 12.3(b), the other Party shall promptly transfer to such Party the patent prosecution files for such Patent and provide reasonable assistance in the transfer of the prosecution responsibilities. The Party assuming such prosecution and maintenance responsibilities shall have the right to engage its own counsel to do so.

10.4 Patent Enforcement.

(a) Each Party shall notify the other within [*] Business Days of becoming aware of any alleged or threatened infringement by a Third Party of any of the Cytokinetics Patents, Astellas Patents or Collaboration Patents, which infringement adversely affects or is expected to adversely affect the Development or Commercialization of any Product, including any "**patent certification**" filed in the United States under 21 U.S.C. §355(b)(2) or 21 U.S.C. §355(j)(2) or similar provisions in other jurisdictions and of any declaratory judgment, opposition, or similar action alleging the invalidity, unenforceability or non-infringement of any of the Cytokinetics Patents, Astellas Patents or Collaboration Patents (collectively "**Product Infringement**").

(b) Each Party shall have the first right to bring and control any legal action in connection with any Product Infringement in its territory at its own expense as it reasonably determines appropriate, and the other Party shall have the right to be represented in any such action by counsel of its choice. If the Party having first right to enforce decides not to bring such legal action, it shall so notify the other Party promptly in writing and the other Party shall have the right to bring and control any legal action in connection with such Product Infringement in the first Party's territory at its own expense as it reasonably determines appropriate after consultation with the first Party.

(c) The enforcing Party shall provide the other Party and its counsel with copies all court filings and material supporting documentation, and, at the request of the other Party, reasonable access to the enforcing Party's counsel for consultation, provided that, unless the other Party is joined as a party to such action, any counsel retained by the other Party shall not act as attorney of record for any such action, or conduct any legal proceedings as part of such action, unless specifically requested by the enforcing Party and at the enforcing Party's expense.

(d) Cytokinetics shall have the exclusive right to enforce the Cytokinetics Patents for any infringement that is not a Product Infringement at its own expense as it reasonably determines appropriate. Astellas shall have the exclusive right to enforce the Astellas Patents for any infringement that is not a Product Infringement at its own expense as it reasonably determines appropriate. Each Party shall have the right to enforce the Collaboration Patents for any infringement that is not a Product Infringement at its own expense as it reasonably determines appropriate.

(e) At the request of the Party bringing the action, the other Party shall provide reasonable assistance in connection therewith, including by executing reasonably appropriate documents, cooperating in discovery and joining as a party to the action if required.

(f) In connection with any such proceeding, the Party bringing the action shall not enter into any settlement admitting the invalidity of, or otherwise impairing the other Party's rights in, the Cytokinetics Patents, Astellas Patents or Collaboration Patents without the prior written consent of the other Party.

(g) Any recoveries resulting from enforcement action relating to a claim of Product Infringement shall be first applied against payment of each Party's costs and expenses in connection therewith. Any such recoveries in excess of such costs and expenses (the "**Remainder**") shall be [*], provided that if [*], such remainder shall be [*] and [*] in accordance with Section [*].

10.5 Trademarks.

(a) Subject to Section 10.5(b) below, each Party shall have the right to brand the Product in its territory using any trademarks and trade names it determines appropriate for the Product, which may vary by country or within a country ("**Product Marks**"). Each Party shall own all rights in the Product Marks in its territory and shall register and maintain the Product Marks in the countries and regions in its territory that it determines reasonably necessary, at such Party's own cost and expense.

(b) The Parties, through their respective representatives on the JCC, shall endeavor to develop and adopt the key distinctive colors, logos, images, symbols, and trademarks to be used in the Cytokinetics Territory and the Astellas Territory in connection with the Commercialization of the Product (such branding elements, collectively, the "**Global Brand Elements**"). Each Party shall own the rights in the Global Brand Elements in its territory. Each Party shall Commercialize each Product in a manner consistent with the applicable Global Brand Elements in its Territory.

ARTICLE 11
CONFIDENTIALITY; PUBLICATION

11.1 Duty of Confidence. Subject to the other provisions of this Article 11:

(a) all Confidential Information of a Party (the "**Disclosing Party**") shall be maintained in confidence and otherwise safeguarded by the other Party (the "**Receiving Party**") and its Affiliates, using Diligent Efforts, but in any event no less than in the same manner and with the same protections as the Receiving Party maintains its own confidential information;

(b) the Receiving Party may only use any such Confidential Information for the purposes of performing its obligations or exercising its rights under this Agreement; and

(c) the Receiving Party may disclose Confidential Information of the other Party to: (i) its Affiliates and sublicensees; and (ii) officers, employees, directors, agents, contractors, consultants and advisers of the Receiving Party and its Affiliates and sublicensees, in each case to the extent reasonably necessary for the purposes of, and for those matters undertaken pursuant to, this Agreement; provided that such Persons are bound by legally enforceable obligations to maintain the confidentiality of the Confidential Information in a manner consistent with the confidentiality provisions of this Agreement.

11.2 Exceptions. The foregoing obligations as to particular Confidential Information of a Disclosing Party shall not apply to the extent that the Receiving Party can demonstrate through competent evidence that such Confidential Information:

(a) is known by the Receiving Party at the time of its receipt without an obligation of confidentiality, and not through a prior disclosure by the Disclosing Party, as documented by the Receiving Party's business records;

(b) is in the public domain before its receipt from the Disclosing Party, or thereafter enters the public domain through no fault of the Receiving Party;

(c) is subsequently disclosed to the Receiving Party by a Third Party who may lawfully do so and is not under an obligation of confidentiality to the Disclosing Party; or

(d) is developed by the Receiving Party independently and without use of or reference to any Confidential Information received from the Disclosing Party, as documented by the Receiving Party's business records.

No combination of features or disclosures shall be deemed to fall within the foregoing exclusions merely because individual features are published or available to the general public or in the rightful possession of the Receiving Party, unless the combination itself and principle of operation are published or available to the general public or in the rightful possession of the Receiving Party.

11.3 Authorized Disclosures. Notwithstanding the obligations set forth in Sections 11.1 and 11.5, a Party may disclose the other Party's Confidential Information (including this Agreement and the terms herein) to the extent:

(a) such disclosure: (i) is reasonably necessary for the filing or prosecuting Patent Rights as contemplated by this Agreement; (ii) is reasonably necessary in connection with regulatory filings for Product; (iii) is reasonably necessary for the prosecuting or defending litigation as contemplated by this Agreement; or (iv) is made to any Third Party bound by written obligation of confidentiality and non-use substantially consistent with to those set forth under this Article 11 (subject to subsection (b) below with respect to [*]), to the extent otherwise necessary or appropriate in connection with the exercise of its rights or the performance of its obligations hereunder;

(b) such disclosure is to [*], does not include the disclosure of Confidential Information relating to [*], and otherwise meets the requirements of subsection (a) above, in which case the Party [*] may agree with [*] of no less than [*], and in any event no less than [*]. Notwithstanding the foregoing, the subcontracting Party may request that the other Party grant a waiver to such requirement, which waiver shall not be unreasonably withheld or delayed and may be provided by e-mail. Each Party agrees to use Diligent Efforts to respond to a request for such a waiver within [*] Business Days.

(c) such disclosure is reasonably necessary: (i) to such Party's directors, attorneys, independent accountants or financial advisors for the sole purpose of enabling such directors, attorneys, independent accountants or financial advisors to provide advice to such Party, provided that in each such case on the condition that such directors, attorneys, independent accountants and financial advisors are bound by confidentiality and non-use obligations substantially consistent with those contained in this Agreement; or (ii) to actual or potential investors, acquirors, (sub)licensees and other financial or commercial partners solely for the purpose of evaluating or carrying out an actual or potential investment, acquisition or collaboration; provided that in each such case on the condition that such Persons are bound by confidentiality and non-use obligations substantially consistent with those contained in the Agreement; or

(d) such disclosure is required by judicial or administrative process, provided that in such event such Party shall promptly notify the other Party in writing of such required disclosure and provide the other Party an opportunity to challenge or limit the disclosure obligations. Confidential Information that is disclosed by judicial or administrative process shall remain otherwise subject to the confidentiality and non-use provisions of this Article 11, and the Party disclosing Confidential Information pursuant to law or court order shall take all steps reasonably necessary, including seeking of confidential treatment or a protective order, to ensure the continued confidential treatment of such Confidential Information.

11.4 Publications. The JMAC shall establish publication review and approval procedures for this Collaboration consistent with the publication policies of both Parties. The Parties shall review and approve any publication by either Party or its Affiliates or (sub)licensees relating to Tirasemtiv or Product, including scientific, health economic or pharmacoeconomic publications, in accordance with such procedures, considering Astellas' and Cytokinetics' interest in publishing the results of the work in the Development, Commercialization and Medical Affairs Activities in order to obtain recognition within the scientific or other applicable community and to advance the state of knowledge in the field, the need to protect Confidential Information and the Parties' mutual interest in obtaining valid patent protection, protecting reasonable business interests and trade secret information, and having an integrated approach to developing one or more Product for one or more Indications. Consequently, except for disclosures permitted pursuant to Sections 11.3 and 11.5, each Party and their Affiliates, employee(s) and consultant(s) shall deliver to the Responsible Committee for review and comment a copy of any proposed publication or presentation that pertains to Tirasemtiv or Product, pursuant to a procedure to be established by the Responsible Committee (but excluding general corporate publications and presentations), any such comments to be provided within [*] days of receipt. The Responsible Committee shall have the right to require modifications of the publication or presentation: (a) to protect each Parties' respective Confidential Information; (b) for trade secret reasons or business reasons; and/or (c) to delay such submission for an additional [*] days as may be reasonably necessary to seek patent protection for the information disclosed in such proposed submission. For clarity, subject to the procedure set forth in this Section 11.4, each Party shall have the right to publish the results of the work in the Development, Commercialization and Medical Affairs Activities performed hereunder in scientific, health economic or pharmacoeconomic journals in the other Party's territory, and to present such results in scientific, health economic or pharmacoeconomic meetings in the other Party's territory.

11.5 Publicity; Use of Names.

(a) Promptly after the Effective Date and on a date mutually agreed by the Parties, the Parties shall agree and issue a joint press release announcing the restatement of the Agreement. No other disclosure of the existence or the terms of this Agreement may be made by either Party or its Affiliates except as provided in Section 11.3 and this Section 11.5. No Party shall use the name, trademark, trade name or logo of the other Party, its Affiliates or their respective employees in any publicity, promotion, news release or disclosure relating to this Agreement or its subject matter, except as provided in this Section 11.5 or with the prior express written permission of the other Party, except as may be required by applicable Law.

(b) A Party may disclose this Agreement in securities filings with the Securities Exchange Commission (the "**SEC**") or equivalent foreign agency to the extent required by applicable Law. In such event, the Party seeking such disclosure shall prepare a proposed redacted version of this Agreement to request confidential treatment for this Agreement, and the other Party agrees to promptly (and in any event, no less than [*] Business Days after receipt of such proposed redactions) give its input in a reasonable manner in order to allow the Party seeking disclosure to file its request within the time lines prescribed by applicable Law. The Party seeking such disclosure shall reasonably consider any comments thereto provided by the other Party within such [*] Business Day period.

(c) Each Party acknowledges that the other Party may be legally required to make public disclosures (including in filings with the Governmental Authorities or by issuing a press release) of certain terms of or material developments or material information generated under this Agreement and agrees that each Party may make such disclosures as required by Law, provided that the Party seeking such disclosure first provides the other Party a copy of the proposed disclosure, and shall reasonably consider any comments thereto provided by the other Party within [*] days after the receipt of such proposed disclosure, provided that in no event shall the Party having such disclosure obligation be required to delay its disclosure in a manner that may cause such Party to violate any Law or incur any legal liability.

(d) Other than the initial press release as described in Section 11.5(a) above and any press release issued pursuant to Section 11.5(c), the Parties agree that the portions of any other news release or other public announcement relating to this Agreement or the performance hereunder that would disclose information other than that already in the public domain, shall first be reviewed and approved by both Parties (with such approval not to be unreasonably withheld or delayed); provided, however, that notwithstanding the foregoing, Cytokinetics shall have the right to disclose publicly (including on its website): (i) the fact that it has entered into this Agreement; (ii) the commencement, progress, status, completion and key results of each clinical trials conducted by the Parties under this Agreement; (iii) the receipt of any milestone payments under this Agreement; (iv) Marketing Approval of any Product; (v) the First Commercial Sale of any Product; and (vi) royalties paid to or received from Astellas. For each such disclosure, unless Cytokinetics otherwise has the right to make such disclosure under this Article 11, Cytokinetics shall provide Astellas with a draft of such disclosure at least [*] Business Days prior to its intended release for Astellas' review and comment, and shall consider Astellas' comments in good faith. If Cytokinetics does not receive comments from Astellas within [*] Business Days, Cytokinetics shall have the right to make such disclosure without further delay. The Parties shall use reasonable efforts to coordinate the timing of such disclosures to be outside the trading hours of the NASDAQ and Tokyo stock markets, provided that neither Party shall be required to so delay such a disclosure where such delay would reasonably be expected to give rise to liability for or sanctions upon such Party in such Party's sole judgment.

(e) The Parties agree that after a disclosure pursuant to Section 11.5(b), a press release (including the initial press release) or other public announcement pursuant to Section 11.5(c) has been reviewed and approved by the other Party, either Party may make subsequent public disclosures reiterating such information without having to obtain the other Party's prior consent or approval.

(f) Each Party agrees that the other Party shall have the right to use such first Party's name and logo in presentations, the company's website, collateral materials and corporate overviews to describe the collaboration relationship, as well as in taglines of press releases issued pursuant to this Section 11.5.

11.6 Attorney-Client Privilege. Neither Party is waiving, nor shall be deemed to have waived or diminished, any of its attorney work product protections, attorney-client privileges or similar protections and privileges or the like as a result of disclosing information pursuant to this Agreement, or any of its Confidential Information (including Confidential Information related to pending or threatened litigation) to the Receiving Party, regardless of whether the Disclosing Party has asserted, or is or may be entitled to assert, such privileges and protections. The Parties: (a) share a common legal and commercial interest in such disclosure that is subject to such privileges and protections; (b) are or may become joint defendants in proceedings to which the information covered by such protections and privileges relates; (c) intend that such privileges and protections remain intact should either Party become subject to any actual or threatened proceeding to which the Disclosing Party's Confidential Information covered by such protections and privileges relates; and (d) intend that after the Effective Date both the Receiving Party and the Disclosing Party shall have the right to assert such protections and privileges.

ARTICLE 12
TERM AND TERMINATION

12.1 Term. The term of this Agreement shall commence upon the Effective Date and continue in full force and effect, on a Product-by-Product basis, until the expiration of the Royalty Term with respect to the applicable Product, unless earlier terminated as set forth in Section 12.2 below (the "**Term**"). Upon expiration of the Royalty Term with respect to such Product in such country, the license granted to a Party to the other Party under this Agreement with respect to such Product in such country shall remain in effect on a perpetual, fully paid-up and royalty-free basis.

12.2 Termination.

(a) Termination by Astellas for Convenience. Astellas may terminate this Agreement for convenience in its entirety by providing written notice of termination to Cytokinetics, which notice includes an effective date of termination at least [*] days after the date of the notice.

(b) Termination for Material Breach. If either Party believes that the other is in material breach of its obligations hereunder or material breach of any representation or warranty set forth in this Agreement, then the non-breaching Party may deliver notice of such breach to the other Party. For all breaches other than a failure to make a payment as set forth in this Agreement, the allegedly breaching Party shall have [*] days from such notice to dispute or cure such breach. For any breach arising from a failure to make a payment set forth in this Agreement, the allegedly breaching Party shall have [*] days from the receipt of the notice to dispute or cure such breach. If the Party receiving notice of breach fails to cure, or fails to dispute, that breach within the applicable period set forth above, then the Party originally delivering the notice of breach may terminate this Agreement effective on written notice of termination to the other Party. If the allegedly breaching Party in good faith disputes such material breach or disputes the failure to cure or remedy such material breach and provides written notice of that dispute to the other Party within the applicable period set forth above, the matter shall be addressed under the dispute resolution provisions in Section 15.6, and the termination shall not become effective unless and until it has been determined under Section 15.6 that the allegedly breaching Party is in material breach of this Agreement. Notwithstanding the foregoing, if the material breach [*] and provided that such material breach [*] under this Section 12.2(b) shall be [*] with respect to such [*]. If any material breach [*] and provided that such material breach [*] under this Section 12.2(b) shall be [*] with respect to such [*].

(c) Termination for Patent Challenge. Except to the extent the following is unenforceable under the laws of a particular jurisdiction, Cytokinetics may terminate this Agreement in its entirety if Astellas or its Affiliates or sublicensees, individually or in association with any other person or entity, commences a legal action challenging the validity, enforceability or scope of any Cytokinetics Patents in any country.

(d) Termination for Bankruptcy. Either Party may terminate this Agreement, if, at any time, the other Party files in any court or agency pursuant to any statute or regulation of any state, country or jurisdiction, a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver or trustee of such other Party or of its assets, or if the other Party proposes a written agreement of composition or extension of its debts, or if the other Party is served with an involuntary petition against it, filed in any insolvency proceeding, and such petition shall not be dismissed within [*] days after the filing thereof, or if the other Party proposes or is a party to any dissolution or liquidation, or if the other Party makes an assignment for the benefit of its creditors.

12.3 Effect of Termination. Upon the termination (but not expiration) of this Agreement for any reason, all licenses and other rights granted to Astellas under the Cytokinetics Technology and Collaboration Intellectual Property shall terminate. In the case of [*], such licenses and rights shall terminate [*]. In addition, the following consequences shall apply in the event of termination by Astellas pursuant to Section 12.2(a) or by Cytokinetics pursuant to Section 12.2(b), 12.2(c) or 12.2(d):

(a) [*]. Within [*] days after the effective date of termination, [*] Tirasemtiv or Product [*]. In addition, Astellas [*] Tirasemtiv and Product in the Field [*].

(b) Patent Prosecution and Enforcement. If Astellas is responsible for the prosecution or maintenance of any Collaboration Patents [*] at the effective date of termination, Astellas shall promptly transfer to Cytokinetics, and Cytokinetics shall thereafter be solely responsible for, the prosecution and maintenance of such Collaboration Patents that are [*] under Section [*]. Cytokinetics shall have the first right to enforce at Cytokinetics' sole cost the Collaboration Patents that are [*] under Section [*], in each case against any infringement that adversely affects or is expected to adversely affect Tirasemtiv or Product.

(c) Regulatory Materials; Data. Within thirty (30) days of the effective date of such termination, Astellas shall transfer and assign to Cytokinetics, at no cost to Cytokinetics, all Regulatory Materials relating to Tirasemtiv or Product, data from preclinical, non-clinical and clinical studies conducted by or on behalf of Astellas, its Affiliates or sublicensees relating to Tirasemtiv or Product and all pharmacovigilance data (including all adverse event databases) relating to Tirasemtiv or Product [*]. At Cytokinetics' request, Astellas shall provide Cytokinetics with assistance with any inquiries and correspondence with Regulatory Authorities relating to Tirasemtiv or Product [*] for a period of [*] months after such termination.

(d) Trademarks. Astellas shall transfer and assign, and shall ensure that its Affiliates transfer and assign, to Cytokinetics, at no cost to Cytokinetics, all Product Marks [*] and any applications therefor (excluding any such marks that include, in whole or part, any corporate name or logos of Astellas or its Affiliates or sublicensees). Cytokinetics and its Affiliates and licensees shall have the right to use other identifiers specific to the Product (e.g., Astellas compound identifiers) [*]. Astellas shall also transfer to Cytokinetics any in-process applications for generic names for the Product [*].

(e) Transition Assistance. Astellas shall provide the following transitional assistance, at its own cost unless specifically set forth below.

(i) If this Agreement is terminated in its entirety, Astellas shall promptly return to Cytokinetics all Know-How, data, materials and other Confidential Information made available to Astellas by Cytokinetics under this Agreement.

(ii) Upon request by Cytokinetics after termination of this Agreement, Astellas shall promptly provide Cytokinetics with a copy of each license agreement, collaboration agreement and/or vendor agreement then effective between Astellas (or its Affiliates) and a Third Party with respect to the Product, or the Development, Manufacture and Commercialization thereof, [*]. Upon Cytokinetics' request, Astellas shall use its Diligent Efforts to assign or sublicense, and shall ensure that its Affiliates assign or sublicense, to Cytokinetics any such agreement(s) and shall permit Cytokinetics access through any communication portal so established with such Third Party under any agreement so assigned to Cytokinetics.

(iii) Astellas shall, at Cytokinetics' request after termination of this Agreement, transfer (including when available, in electronic format) all Astellas Know-How and Collaboration Know-How relating to the Product to Cytokinetics or its designee, including without limitation: study protocols, study results, analytical methodologies, CMC Information (including bulk and final product manufacturing processes, batch records, vendor information and validation documentation), expert opinions, analyses, in each case to the extent such materials pertain to [*], and shall provide Cytokinetics reasonable technical assistance in connection therewith. From and after such time, all such Know-How shall be deemed Confidential Information of Cytokinetics.

(iv) Astellas shall transfer to Cytokinetics or its designee any and all inventory of Tirasemtiv and Product [*] (including all final product, bulk drug substance, work-in-process, formulation materials, reference standards, drug product clinical reserve samples, packaged retention samples, and the like) then in the possession of Astellas, its Affiliates or sublicensees at Astellas' Manufacturing Costs. Astellas shall continue or have continued any ongoing stability studies pertaining to any materials so transferred if such studies will take less than [*] to complete. The Parties shall agree on the procedures by which to transfer any longer stability studies to Cytokinetics or its designee in a manner that minimizes the disruption of such studies.

(v) If at the time of such termination, Cytokinetics or its Affiliates are not Manufacturing the Product [*], then, at Cytokinetics' request, Astellas shall: (A) continue to Manufacture and supply Cytokinetics with the Product [*] for a period of [*] year after such termination; (B) assign or transfer to Cytokinetics any Manufacturing agreement between Astellas and a Third Party contract manufacturer with respect to the Product [*]; and/or (C) transfer to Cytokinetics (or its designee) all Know-How and materials to enable Cytokinetics or such designee to assume the Manufacture and supply of such the Product [*] and shall provide reasonable technical assistance in connection therewith;

(vi) If at the time of such termination, Astellas or its Affiliates are conducting any clinical trials for the Product [*], then, at Cytokinetics' election on a trial-by-trial basis: (A) Astellas shall fully cooperate, and shall ensure that its Affiliates fully cooperate, with Cytokinetics to transfer the conduct of all such clinical trials to Cytokinetics. [*] the conduct of such clinical trials after the effective date of such termination (except to the extent [*]); or (B) Astellas shall, [*], orderly wind-down the conduct of any such clinical trial which is not assumed by Cytokinetics under clause (A). In each case [*] in connection with the conduct or wind-down of all such clinical trials as of the effective date of such termination.

(vii) In addition to the foregoing, Astellas shall use its Diligent Efforts with respect to those activities for which it is responsible to ensure orderly transition and uninterrupted Development, Manufacturing, Commercialization and Medical Affairs Activities of the Product [*] by Cytokinetics and to enable Cytokinetics to enter into an agreement with a Third Party to continue these activities with minimal disruption and delay.

(viii) Astellas shall transfer to Cytokinetics all rights to publications relating to the Product [*] (including data to be published, manuscript in preparation and pending publications).

(f) Termination Press Releases. In the event of termination of this Agreement for any reason and subject to the provisions of Section 11.5, the Parties shall cooperate in good faith to coordinate public disclosure of such termination and the reasons therefor, and shall not, except to the extent required by applicable Law, disclose such information without the prior approval of the other Party. The principles to be observed in such disclosures shall be accuracy, compliance with applicable Law and regulatory guidance documents, and reasonable sensitivity to potential negative investor reaction to such news.

12.4 Survival. Expiration or termination of this Agreement shall not relieve the Parties of any obligation accruing prior to such expiration or termination. Without limiting the foregoing, the provisions of Articles 1, 9 (solely with respect to payments accrued before the date of expiration or termination), 11, 14 (solely with respect to Claims arising from actions and/or omissions during the Term) and 15, and Sections 5.7, 10.1(a), 10.1(b) (the second sentence only), 10.3(b), 10.3(d), 12.3, 12.4, 12.5 and 13.5 shall survive the expiration or termination of this Agreement.

12.5 Termination Not Sole Remedy. Termination is not the sole remedy under this Agreement and, whether or not termination is effected and notwithstanding anything contained in this Agreement to the contrary, all other remedies shall remain available except as agreed to otherwise herein.

ARTICLE 13
REPRESENTATIONS AND WARRANTIES

13.1 Representations and Warranties of Each Party. Each Party represents and warrants to the other Party as of the Effective Date that:

(a) it is duly organized and validly existing under the laws of its jurisdiction of incorporation or formation, and has full corporate or other power and authority to enter into this Agreement and to carry out the provisions hereof;

(b) it has the full right, power and authority to enter into this Agreement, to perform its obligations hereunder; and

(c) this Agreement has been duly executed by it and is legally binding upon it, enforceable in accordance with its terms, and does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, nor violate any material law or regulation of any court, governmental body or administrative or other agency having jurisdiction over it.

13.2 Covenant by Cytokinetics. Cytokinetics agrees that, at the time of delivery of **Exhibit B** to Astellas within thirty (30) days after the Effective Date, unless as set forth in any Schedule of Exceptions:

(a) it has not previously assigned, transferred, conveyed or otherwise encumbered its right, title and interest in Cytokinetics Patents listed in **Exhibit B** in a manner that is inconsistent with the license granted to Astellas under Section 3. 1;

(b) to Cytokinetics' knowledge, all Cytokinetics Patents are listed in Exhibit B; and

(c) it has the right to grant the license and rights herein to Astellas and it has not granted any license, right or interest in, to or under the Cytokinetics Patents listed in Exhibit B to any Third Party that is inconsistent with the license granted to Astellas under Section 3. 1.

13.3 Covenant by Astellas. Astellas agrees that, at the time of delivery of **Exhibit A** to Cytokinetics within thirty (30) days after the Effective Date, unless as set forth in any Schedule of Exceptions::

(a) it has not previously assigned, transferred, conveyed or otherwise encumbered its right, title and interest in Astellas Patent listed in **Exhibit A** in a manner that is inconsistent with the license granted to Cytokinetics under Section 3.4;

(b) to Astellas' knowledge, all Astellas Patents are listed in **Exhibit A**; and

(c) it has the right to grant the license and rights herein to Cytokinetics and it has not granted any license, right or interest in, to or under the Astellas Patents listed in **Exhibit A** to any Third Party that is inconsistent with the license granted to Cytokinetics under Section 3.4.

13.4 Mutual Covenants.

(a) No Debarment. In the course of the Development, Manufacture and Commercialization of Tirasemtiv and Product, neither Party nor its Affiliates shall use any employee or consultant (including of any sublicensee), who has been debarred or disqualified by any Regulatory Authority, or, to such Party's or its Affiliates' knowledge, is the subject of debarment or disqualification proceedings by a Regulatory Authority. Each Party shall notify the other Party promptly upon becoming aware that any of its or its Affiliates' employees or consultants has been debarred or is the subject of debarment or disqualification proceedings by any Regulatory Authority.

(b) Compliance. Each Party and its Affiliates shall comply in all material respects with all applicable Laws (including all anti-bribery laws) in the Development, Manufacture, Commercialization and Medical Affairs Activities of Tirasemtiv and Product and performance of its obligations under this Agreement.

13.5 No Other Warranties. EXCEPT AS EXPRESSLY STATED IN THIS ARTICLE 13, (A) NO REPRESENTATION, CONDITION OR WARRANTY WHATSOEVER IS MADE OR GIVEN BY OR ON BEHALF OF ASTELLAS OR CYTOKINETICS; AND (B) ALL OTHER CONDITIONS AND WARRANTIES WHETHER ARISING BY OPERATION OF LAW OR OTHERWISE ARE HEREBY EXPRESSLY EXCLUDED, INCLUDING ANY CONDITIONS AND WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.

ARTICLE 14
INDEMNIFICATION; LIABILITY; INSURANCE

14.1 Indemnification by Cytokinetics. Cytokinetics shall indemnify and hold Astellas, its Affiliates and sublicensees and their respective officers, directors, agents and employees ("**Astellas Indemnitee**s") harmless from and against any Claims against them to the extent arising or resulting from:

(a) the Development, Manufacture, Commercialization or Medical Affairs Activities of Tirasemtiv and/or Product by Cytokinetics or any of its Affiliates, licensees, sublicensees, distributors or contractors (other than Astellas, its Affiliates, licensees, sublicensees, distributors or contractors); or

(b) the negligence, recklessness or willful misconduct of any of the Cytokinetics Indemnitees; or

(c) the breach of any of the warranties or representations made by Cytokinetics to Astellas under this Agreement; or

(d) the breach by Cytokinetics of its obligations pursuant to this Agreement;

except in each case, to the extent such Claims result from the breach by any Astellas Indemnitee of any covenant, representation, warranty or other agreement made by Astellas in this Agreement or the negligence, recklessness or willful misconduct of any Astellas Indemnitee.

14.2 Indemnification by Astellas. Astellas shall indemnify and hold Cytokinetics, its Affiliates, and their respective officers, directors, agents and employees ("**Cytokinetics Indemnitees**") harmless from and against any Claims arising under or related to this Agreement against them to the extent arising or resulting from:

(a) the Development, Manufacture, Commercialization or Medical Affairs Activities of Tirasemtiv and/or Product by Astellas or any of its Affiliates, licensees, sublicensees, distributors or contractors; or

(b) the negligence, recklessness or willful misconduct of any of the Astellas Indemnitees; or

(c) the breach of any of the warranties or representations made by Astellas to Cytokinetics under this Agreement; or

(d) any breach by Astellas of its obligations pursuant to this Agreement;

except in each case, to the extent such Claims result from the breach by any Cytokinetics Indemnitee of any covenant, representation, warranty or other agreement made by Cytokinetics in this Agreement or the negligence, recklessness or willful misconduct of any Cytokinetics Indemnitee.

14.3 Indemnification Procedure. If either Party is seeking indemnification under Sections 14.1 or 14.2 (the "**Indemnified Party**"), it shall inform the other Party (the "**Indemnifying Party**") of the Claim giving rise to the obligation to indemnify pursuant to such Section as soon as reasonably practicable after receiving notice of the Claim. The Indemnifying Party shall have the right to assume the defense of any such Claim for which it is obligated to indemnify the Indemnified Party. The Indemnified Party shall cooperate with the Indemnifying Party and the Indemnifying Party's insurer as the Indemnifying Party may reasonably request, and at the Indemnifying Party's cost and expense. The Indemnified Party shall have the right to participate, at its own expense and with counsel of its choice, in the defense of any Claim that has been assumed by the Indemnifying Party. Neither Party shall have the obligation to indemnify the other Party in connection with any settlement made without the Indemnifying Party's written consent, which consent shall not be unreasonably withheld or delayed. If the Parties cannot agree as to the application of Section 14.1 or 14.2 as to any Claim, pending resolution of the dispute pursuant to Section 15.6, the Parties may conduct separate defenses of such Claims, with each Party retaining the right to claim indemnification from the other Party in accordance with Section 14.1 or 14.2 upon resolution of the underlying Claim.

14.4 Mitigation of Loss. Each Indemnified Party shall take and shall procure that its Affiliates take all such reasonable steps and action as are reasonably necessary or as the Indemnifying Party may reasonably require in order to mitigate any Claims (or potential losses or damages) under this Article 14. Nothing in this Agreement shall or shall be deemed to relieve any Party of any common law or other duty to mitigate any losses incurred by it.

14.5 Limitation of Liability. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 14.5 IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF ANY PARTY UNDER SECTION 14.1 OR 14.2, OR DAMAGES AVAILABLE FOR A PARTY'S BREACH OF ITS OBLIGATIONS RELATING TO CONFIDENTIALITY OR INTELLECTUAL PROPERTY HEREUNDER.

14.6 Insurance. Each Party shall procure and maintain insurance, including product liability insurance, with respect to its activities hereunder and which is consistent with normal business practices of prudent companies similarly situated at all times during which any Product is being clinically tested in human subjects or commercially distributed or sold. Each Party shall provide the other Party with evidence of such insurance upon request and shall provide the other Party with written notice at least [*] days prior to the cancellation, non-renewal or material changes in such insurance. Such insurance shall not be construed to create a limit of either Party's liability with respect to its indemnification obligations under this Article 14.

ARTICLE 15
GENERAL PROVISIONS

15.1 Force Majeure. Neither Party shall be held liable to the other Party nor be deemed to have defaulted under or breached this Agreement for failure or delay in performing any obligation under this Agreement to the extent such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party, potentially including embargoes, war, acts of war (whether war be declared or not), acts of terrorism, insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, fire, floods, earthquakes or other acts of God, or acts, generally applicable action or inaction by any governmental authority (but excluding any government action or inaction that is specific to such Party, its Affiliates or sublicensees, such as revocation or non-renewal of such Party's license to conduct business), or omissions or delays in acting by the other Party, or unavailability of materials related to the Manufacture of Tirasemtiv or Product. The affected Party shall notify the other Party in writing of such force majeure circumstances as soon as reasonably practical, and shall promptly undertake and continue diligently all reasonable efforts necessary to cure such force majeure circumstances or to perform its obligations in spite of the ongoing circumstances.

15.2 Assignment. This Agreement may not be assigned or otherwise transferred, nor may any right or obligation hereunder be assigned or transferred, by either Party without the prior written consent of the other Party. Notwithstanding the foregoing, either Party may, without consent of the other Party, assign this Agreement and its rights and obligations hereunder in whole or in part to an Affiliate of such Party, or in whole to its successor-in-interest in connection with the sale of all or substantially all of its stock or its assets to which this Agreement relates, or in connection with a merger, acquisition or similar transaction. Any attempted assignment not in accordance with this Section 15.2 shall be null and void and of no legal effect. Any permitted assignee shall assume all assigned obligations of its assignor under this Agreement. The terms and conditions of this Agreement shall be binding upon, and shall inure to the benefit of, the Parties and their respected successors and permitted assigns.

15.3 Severability. If any one or more of the provisions contained in this Agreement is held invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby, unless the absence of the invalidated provision(s) adversely affects the substantive rights of the Parties. The Parties shall in such an instance use their best efforts to replace the invalid, illegal or unenforceable provision(s) with valid, legal and enforceable provision(s) which, insofar as practical, implement the purposes of this Agreement.

15.4 Notices. All notices which are required or permitted hereunder shall be in writing and sufficient if delivered personally, sent by facsimile (and promptly confirmed by personal delivery, registered or certified mail or overnight courier), sent by nationally-recognized overnight courier or sent by registered or certified mail, postage prepaid, return receipt requested, addressed as follows:

If to Cytokinetics:

Cytokinetics, Inc.
280 East Grand Avenue
South San Francisco, CA 94080
USA
Attn: President
Fax: 650-624-3010
Copy to: General Counsel

with a copy to:

Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304, USA
Attn: Robert L. Jones, Esq.
Fax: (650) 849-7400

If to Astellas:

Astellas Pharma Inc.
2-5-1, Nihonbashi-Honcho
Chuo-ku, Tokyo 103-8411
Japan
Attn: Corporate Vice President, Legal
Fax: 81-3-3244-5811

or to such other address(es) as the Party to whom notice is to be given may have furnished to the other Party in writing in accordance herewith. Any such notice shall be deemed to have been given: (a) when delivered if personally delivered or sent by facsimile on a Business Day (or if delivered or sent on a non-Business Day, then on the next Business Day); (b) on the fifth (5th) Business Day after dispatch if sent by nationally-recognized overnight courier; or (c) on the tenth (10th) Business Day following the date of mailing, if sent by mail.

15.5 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of [*] and the patent laws of the United States without reference to any rules of conflict of laws.

15.6 Dispute Resolution. The Parties shall negotiate in good faith and use reasonable efforts to settle any dispute, controversy or claim arising from or related to this Agreement or the breach thereof. If the Parties do not fully settle, and a Party wishes to pursue the matter, each such dispute, controversy or claim that is not a matter addressed in Section [*] shall be finally shall be settled by binding arbitration administered by [*] pursuant to its [*] then in effect (the "[*] **Rules**"), except as otherwise provided herein. The arbitration shall be governed by the United States Federal Arbitration Act, 9 U. S.C. § § 1- 16 (the "**Federal Arbitration Act**"), to the exclusion of any inconsistent state laws. The U.S. Federal Rules of Civil Procedure shall govern discovery and the U.S. Federal Rules of Evidence shall govern evidence for the arbitration. The arbitration shall be conducted in San Francisco, California and the Parties consent to the personal jurisdiction of the United States federal courts, for any case arising out of or otherwise related to this arbitration, its conduct and its enforcement. Any situation not expressly covered by this Agreement shall be decided in accordance with the [*] Rules. The arbitrator shall be one (1) neutral, independent and impartial arbitrator selected from a pool of retired federal judges to be presented to the Parties by [*]. Failing the agreement of the Parties as to the selection of the arbitrator within [*] days, the arbitrator shall be appointed by [*] in accordance with the [*] Rules. Notwithstanding any other provision of this Section 15.6, either Party shall have the right to seek and be granted exigent, injunctive or temporary relief in any court of competent jurisdiction.

15.7 Foreign Corrupt Practices Act Compliance.

(a) Compliance with FCPA. The U.S. government imposes and enforces prohibitions on the payment or transfer of anything of value to governments, government officials, political parties or political party officials (or relatives or associates of such officials) ("**FCPA Covered Person**") for the purpose of illegally influencing them, whether directly or indirectly, to obtain or retain business. This U.S. law is referred to as the Foreign Corrupt Practices Act ("**FCPA**"), and it can have application to conduct of a U.S. corporation's foreign subsidiaries, employees, agents and distributors. A summary of the law and related information can be found at http://www.justice.gov/criminal/fraud/fcpa. By signing this Agreement, each Party warrants that:

(i) It is familiar with the provisions and restrictions contained in the OECD Convention and FCPA.

(ii) It shall comply with the FCPA in marketing, selling and/or servicing the Product under this Agreement.

(iii) It shall not, in the course of its duties under the Agreement, offer, promise, give, demand, seek or accept, directly or indirectly, any gift or payment, consideration or benefit in kind to any FCPA Covered Person that would or could be construed as an illegal or corrupt practice.

(iv) It is not an FCPA Covered Person or affiliated with any FCPA Covered Person.

(v) It shall immediately notify the other Party of any attempt by any FCPA Covered Person to directly or indirectly solicit, ask for, or attempt to extort anything of value from the first Party, and shall refuse any such solicitation, request or extortionate demand except a facilitating payment as expressly permitted under the FCPA.

(b) Compliance Certificate. From time to time upon request from one Party, the other Party shall submit a compliance certificate in the form set forth in **Exhibit D**, as applicable, stating that (i) it fully understands its obligations under this Section 15.7 and any other applicable laws and regulations mentioned herein or as may come into existence from time to time after the Effective Date; (ii) it has been complying with this Section 15.7 and any other applicable laws and regulations mentioned herein or as may come into existence from time to time after the Effective Date; and (iii) it shall continue to comply with this Section 15.7 and any other applicable laws and regulations mentioned herein or as may come into existence from time to time after the Effective Date.

(c) No Action. In no event shall one Party be obligated under the Agreement to take any action or omit to take any action that such Party believes, in good faith, would cause it to be in violation of any applicable laws and regulations, including the anti-bribery laws referenced in this Section 15.7.

(d) Due Diligence. Each Party shall have the right to visit the offices of the other Party from time to time during the term of the Agreement on an "as needed" basis and conduct due diligence in relation to the other Party's business related to performance of its obligations under this Section 15.7 and may do so in the way it deems necessary, appropriate or desirable so as to ensure that the other Party complies with this Section 15.7 and any other applicable laws and regulations in its business operations. Each Party shall make every effort to cooperate fully with the other Party in any such due diligence.

(e) Audit. In the event that one Party has reason to believe that a breach of any obligation of the other Party under this Section 15.7 has occurred or may occur, the first Party shall have the right to select an independent third party to conduct an audit of the other Party and review relevant books and records of the other Party, to satisfy itself that no breach has occurred. Unless otherwise required under applicable laws and regulations or by order of a competent court or regulatory authority, the first Party shall ensure that the selected independent third party shall keep confidential all audited matters and the results of the audit. The first Party does reserve the right to disclose to the U.S. or foreign government, its agencies and/or any other government or non-government party, information relating to a possible violation by the other Party of any applicable law, including a violation of the FCPA or any other applicable anti-bribery law.

15.8 Entire Agreement; Amendments. This Agreement, together with the Exhibits hereto, contains the entire understanding of the Parties with respect to the collaboration and the licenses granted hereunder. Any other express or implied agreements and understandings, negotiations, writings and commitments, either oral or written, in respect to the collaboration and the licenses granted hereunder are superseded by the terms of this Agreement. The Exhibits to this Agreement are incorporated herein by reference and shall be deemed a part of this Agreement. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by authorized representative(s) of both Parties hereto.

15.9 Headings. The captions to the several Articles, Sections and subsections hereof are not a part of this Agreement, but are merely for convenience to assist in locating and reading the several Articles and Sections hereof.

15.10 Independent Contractors. Cytokinetics and Astellas are independent contractors and that the relationship between the two Parties shall not constitute a partnership, joint venture or agency. Neither Cytokinetics nor Astellas shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other Party, without the prior written consent of the other Party.

15.11 Waiver. The waiver by either Party hereto of any right hereunder, or of any failure of the other Party to perform, or of any breach by the other Party, shall not be deemed a waiver of any other right hereunder or of any other breach by or failure of such other Party whether of a similar nature or otherwise.

15.12 Cumulative Remedies. No remedy referred to in this Agreement is intended to be exclusive, but each shall be cumulative and in addition to any other remedy referred to in this Agreement or otherwise available under law.

15.13 Waiver of Rule of Construction. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this Agreement. Accordingly, no ambiguity in this Agreement shall be strictly construed against either Party.

15.14 Business Day Requirements. In the event that any notice or other action or omission is required to be taken by a Party under this Agreement on a day that is not a Business Day then such notice or other action or omission shall be deemed to be required to be taken on the next occurring Business Day.

15.15 Translations. This Agreement is in the English language only, which language shall be controlling in all respects, and all versions hereof in any other language shall be for accommodation only and shall not be binding upon the Parties. All communications and notices to be made or given pursuant to this Agreement, and any dispute proceeding related to or arising hereunder, shall be in the English language. If there is a discrepancy between any translation of this Agreement and this Agreement, this Agreement shall prevail.

15.16 Further Actions. Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other acts, as necessary or appropriate in order to carry out the purposes and intent of this Agreement.

15.17 Counterparts. This Agreement may be executed in two or more counterparts by original signature, facsimile or PDF files, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

<REMAINDER OF PAGE INTENTIONALLY LEFT BLANK>

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

IN WITNESS WHEREOF, the Parties intending to be bound have caused this Tirasemtiv License and Collaboration Agreement to be executed by their duly authorized representatives as of the Effective Date.

Cytokinetics, Inc.	**Astellas Pharma Inc.**
By: _____	By: _____
Name: Robert I. Blum	Name: Yoshihiko Hatanaka
Title: President and CEO	Title: President and CEO

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

LIST OF EXHIBITS

Exhibit A: Existing Astellas Patents
Exhibit B: Existing Cytokinetics Patents
Exhibit C: Allocation of Global Development Costs
Exhibit D: Form of Certificate of Compliance

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

Exhibit A
Existing Astellas Patents

[*]

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

Exhibit B
Existing Cytokinetics Patents

Country	Application No.	Filing Date	Patent Number	Title
[*]	[*]	[*]	[*]	[*]

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

Exhibit C
Allocation of Global Development Costs

[*]

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

Exhibit D
Form of Certificate of Compliance

I, [_____] of Astellas Pharma Inc., which is conducting business with Cytokinetics, Inc. per our License and Collaboration Agreement dated [_____].

I hereby acknowledge and certify that I am familiar and knowledgeable about the requirements of the FCPA and other applicable Anti-Corruption Laws and their requirements.

I certify that Astellas has not, and will not, take any action in furtherance of an unlawful offer, promise, or payment to a foreign official that would cause Cytokinetics, Inc. to be in violation of the FCPA, any other applicable Anti-Corruption Law. I further certify that Astellas has made no agreement or commitment, directly or indirectly, which, if carried out in the future, would cause Cytokinetics, Inc. to be in violation of the FCPA or any other applicable Anti-Corruption Law.

"**FCPA**" shall mean the U.S. Foreign Corrupt Practices Act (15 U.S.C. Section 78dd-1, et seq.) as amended.

"**Anti-Corruption Laws**" shall mean all applicable laws, regulations, orders, judicial decisions, conventions and international financial institution rules regarding corruption, bribery, ethical business conduct, money laundering, political contributions, gifts and gratuities, or lawful expenses to public officials and private persons, agency relationships, commissions, lobbying, books and records, and financial controls.

Signature: _____
Printed Name: _____
Title: _____
Company: Astellas Pharma Inc.
Dated: _____

Form of Certificate of Compliance

I, [_____] of Cytokinetics, Inc., which is conducting business with Astellas Pharma Inc. per our License and Collaboration Agreement dated [_____].

I hereby acknowledge and certify that I am familiar and knowledgeable about the requirements of the FCPA and other applicable Anti-Corruption Laws and their requirements.

I certify that Cytokinetics has not, and will not, take any action in furtherance of an unlawful offer, promise, or payment to a foreign official that would cause Astellas Pharma Inc. to be in violation of the FCPA, any other applicable Anti-Corruption Law. I further certify that Cytokinetics has made no agreement or commitment, directly or indirectly, which, if carried out in the future, would cause Astellas Pharma Inc. to be in violation of the FCPA or any other applicable Anti-Corruption Law.

"**FCPA**" shall mean the U.S. Foreign Corrupt Practices Act (15 U.S.C. Section 78dd-1, et seq.) as amended.

"**Anti-Corruption Laws**" shall mean all applicable laws, regulations, orders, judicial decisions, conventions and international financial institution rules regarding corruption, bribery, ethical business conduct, money laundering, political contributions, gifts and gratuities, or lawful expenses to public officials and private persons, agency relationships, commissions, lobbying, books and records, and financial controls.

Signature: _____
Printed Name: _____
Title: _____
Company: Cytokinetics, Inc.
Dated: _____

Exhibit D

Global Development Plan

[*]

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

Exhibit E

Cytokinetics Patents

Country	Application No.	Filing Date	Patent Number	Title
[*]	[*]	[*]	[*]	[*]

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

EXHIBIT 10.43

CONFIDENTIAL
Execution Version

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

LETTER OF AGREEMENT

BY AND BETWEEN

CYTOKINETICS, INCORPORATED

AND

AMGEN INC.

AND

LES LABORATOIRES SERVIER AND INSTITUT DE RECHERCHES INTERNATIONALES SERVIER

DATED

AUGUST 29, 2016

LETTER OF AGREEMENT

This Letter of Agreement (this *"**Agreement**"*) is entered into as of August 29, 2016 (the "***Effective Date***") by and between Cytokinetics, Incorporated, a Delaware corporation having its principal place of business at 280 East Grand Avenue, South San Francisco, California 94080, U.S.A. ("***Cytokinetics***"), and Amgen Inc., a Delaware corporation having its principal place of business at One Amgen Center Drive, Thousand Oaks, California 91320-1799, U.S.A. ("***Amgen***"), and Les Laboratoires Servier, a French corporation having its principal place of business at 50 rue Carnot, 92150 Suresnes, France ("***LLS***") and Institut de Recherches Internationales Servier, a French corporation having its principal place of business at 50 rue Carnot, 92150 Suresnes, France ("***IRIS***") (LLS and IRIS being together referred to as "***Servier***"). Cytokinetics, Amgen and Servier are sometimes referred to herein individually as a *"**Party**"* and collectively as the *"**Parties**."*

RECITALS

WHEREAS, Cytokinetics and Amgen entered into a Collaboration and Option Agreement dated as of December 29, 2006, as amended, by which Cytokinetics granted to Amgen an exclusive option to obtain an exclusive license, with the right to sublicense, under the CK Intellectual Property (as defined therein) to research, develop, manufacture, commercialize, make, have made, use, sell, offer for sale, import and otherwise exploit *omecamtiv mecarbil,* also known as AMG 423 and CK-452, and certain other compounds for the treatment, diagnosis, prevention or prophylaxis of any disease or conditions in humans, worldwide (the "***License Agreement***");

WHEREAS, by letter dated May 19, 2009, Amgen exercised its option under the License Agreement;

WHEREAS, within the framework of the License Agreement, Amgen is conducting development of *omecamtiv mecarbil* for the treatment of heart failure in collaboration with Cytokinetics;

WHEREAS, Amgen and Servier signed an Option, License and Collaboration Agreement dated as of June 27, 2013, as amended, by which Amgen granted to Servier an exclusive right to obtain an exclusive license (even as to Amgen and its affiliates), with the right to sublicense, under the Licensed Amgen Patents, Amgen's interest in the Joint Patents and the Licensed Amgen Know-How (each as defined therein), to use, develop, manufacture, sell, import and otherwise commercialize *omecamtiv mecarbil* for the treatment, diagnosis, prevention or prophylaxis of any disease or condition in humans, for the Territory (as defined therein) (the "***Sublicense Agreement***") and Cytokinetics gave its consent to Amgen to grant such a sublicense by a letter dated June 11, 2013;

WHEREAS, according to Section 4.10 of the Sublicense Agreement, Servier desires for Cytokinetics to confirm, with this Agreement, Servier's sublicense rights granted under the Sublicense Agreement in the event that Servier exercises its option right and thereafter Amgen's rights under the License Agreement are terminated for any reason whatsoever; and

WHEREAS, the Parties wish to clarify certain other matters relating to the Sublicense Agreement;

NOW, THEREFORE, in consideration of the mutual promises contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, the Parties hereto agree as follows:

1. DEFINITIONS

1.1 Capitalized terms used herein and not otherwise defined shall have the meaning ascribed to such term in the Sublicense Agreement.

2. TERRITORY EXPANSION

2.1 According to Section 4.9 ("Territory Expansion") of the Sublicense Agreement, Servier and Amgen agree, as of the Effective Date of this Agreement, to expand the Territory to include Russia, Albania, Armenia, Azerbaijan, Belarus, Bosnia & Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Macedonia, Moldova, Montenegro, Serbia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. Cytokinetics hereby consents to such expansion of the Territory.

3. EFFECT OF TERMINATION OF LICENSE AGREEMENT

3.1 Cytokinetics agrees that, in the event that Servier exercises the Option according to Section 2.1 of the Sublicense Agreement and thereafter Amgen's rights under the License Agreement are terminated with respect to the Licensed Product in the Territory, for any reason whatsoever ("***Termination***"), the sublicensed rights previously granted by Amgen to Servier under the Sublicense Agreement shall (to the extent Controlled by Cytokinetics) remain in effect and shall become a direct license or sublicense, as the case may be, of such rights by Cytokinetics to Servier (a "***Direct License***") on the same terms as are set forth in the Sublicense Agreement, and as modified by this Agreement.

3.2 Promptly following any Termination, unless the Parties agree otherwise and notwithstanding Article 18 of the License Agreement, the Parties agree that Amgen will, at Cytokinetics' election, transfer to Cytokinetics or its designee (including Servier) any ongoing development activities (e.g., clinical trials or related activities) for the Licensed Compound and Licensed Products; provided that [*] any such development activities (other than those being conducted by or on behalf of [*]) in or for the Territory, [*]. For clarity, Amgen shall [*] the conduct of the [*] referred to as [*].

3.3 In the event of a Termination, Cytokinetics shall assume all rights (including rights to payments) and obligations of Amgen as set forth in the Sublicense Agreement (as modified by this Agreement) and Servier shall retain all of its rights and obligations as set forth in the Sublicense Agreement (as modified by this Agreement), provided that:

(a) Cytokinetics will not be required to assume any obligation or to benefit from any right of Amgen other than the obligations and rights of Amgen set forth in the Sublicense Agreement as it exists as of the Effective Date of this Agreement, except as Cytokinetics and Servier may agree in writing;

(b) Cytokinetics will have no obligation to fund or continue development or related activities for the Licensed Product, except as it may agree in writing. Cytokinetics will not unreasonably withhold such agreement;

(c) Cytokinetics will have no obligation to take over Amgen's supply obligations of the Licensed Compound or Licensed Product;

(d) Following Termination, Servier will be responsible (i) for its same share of development costs in the Territory Development Budget for the activities in the Territory Development Plan conducted by or on behalf of Cytokinetics subject to agreement on the Territory Development Plan and Territory Development Budget in accordance with subsection (b) above, and (ii) for those activities that Servier may conduct at its sole cost as described in the Sublicense Agreement. All costs to obtain or maintain pricing and reimbursement approvals in the Servier Territory (other than as set forth in the Territory Development Budget as agreed by Cytokinetics in accordance with subsection (b) above) will be Servier's sole responsibility; and

(e) "[*] ***Product***" will mean any compound that [*], i.e., any [*].

3.4 Promptly following any Termination, Servier and Cytokinetics will execute a written agreement to implement the Direct License in accordance with this Agreement, and will use good faith efforts to do so within [*] of the Termination. For the avoidance of doubt, the Direct License shall be effective upon the effective date of the Termination.

4. AMGEN BREACH OF LICENSE AGREEMENT

4.1 Cytokinetics agrees to give Servier a copy of each notice of material default, termination or demand for cure of a material breach given by Cytokinetics to Amgen pursuant to the License Agreement.

5. REGULATORY MEETINGS

5.1 The Parties agree that, in addition to attendance by Amgen, Cytokinetics will have the right to attend regulatory meetings relating to the Licensed Product with Regulatory Authorities in the Territory. The Parties shall determine appropriate roles given each Party's areas of expertise and the best interests of the collaboration around the Licensed Product.

6. INTELLECTUAL PROPERTY

6.1 Servier agrees that it will not have the right under Section 4.3 of the Sublicense Agreement to withhold its consent to Amgen's grant of a sublicense to Cytokinetics or any Affiliate of Cytokinetics.

7. MISCELLANEOUS

7.1 **Effect on License Agreement and Sublicense Agreement.** Except as expressly set forth herein, all terms and conditions of the License Agreement and the Sublicense Agreement will remain in full force and effect.

7.2 **Notices.** Any notice required or permitted to be given by this Agreement shall be in writing, in English, and shall be delivered by hand or overnight courier with tracking capabilities or mailed postage prepaid by registered or certified mail addressed as set forth below unless changed by notice so given:

If to Cytokinetics: Cytokinetics, Incorporated
280 East Grand Avenue
South San Francisco, California 94080
USA
Attention: President and Chief Executive Officer
E-mail: rblum@cytokinetics.com

With a copy to:
Attention: General Counsel
E-mail: cmcdowell@cytokinetics.com

If to Amgen: Amgen Inc.
One Amgen Center Drive
Thousand Oaks, California 91320-1799
USA
Attention: Corporate Secretary
Telephone: (805) 447-1000
Facsimile: (805) 499-6751

If to Servier: Les Laboratoires Servier
50, rue Carnot
92284 Suresnes Cedex
France
Attention: Head of Alliance Management
E-mail: mail.alliance.management@servier.com

With a copy to:
Attention: Director of Contract Department
E-mail: matthieu.guerineau@servier.com

Any such notice shall be deemed given on the date delivered. A Party may add, delete (so long as at least one person is remaining), or change the person or address to which notices should be sent at any time upon written notice delivered to the other Party in accordance with this Section (Notices).

7.3 **Further Actions.** Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

7.4 **No Waiver; Modifications.** Any delay in enforcing a Party's rights under this Agreement or any waiver as to a particular default or other matter shall not constitute a waiver of such Party's rights to the future enforcement of its rights under this Agreement, excepting only as to an express written and signed waiver as to a particular matter for a particular period of time. Amendments to this Agreement, including this clause, shall only be valid if made in writing and signed by all Parties hereto in the form as set forth in Section 7.7 of this Agreement.

7.5 **Independent Contractors.** Each Party shall act solely as an independent contractor, and nothing in this Agreement shall be construed to give any Party the power or authority to act for, bind, or commit any other Party in any way. Nothing herein shall be construed to create a relationship of partners, principal and agent, or joint-venture partners between any of the Parties.

7.6 **Governing Law and Arbitration.** Resolution of all disputes, controversies or claims arising out of, relating to or in connection with this Agreement or the performance, enforcement, breach or termination of this Agreement and any remedies relating thereto, shall be resolved as provided in and pursuant to the laws and arbitration proceeding of the Sublicense Agreement.

7.7 **Counterparts.** This Agreement may be executed in counterparts with the same effect as if Parties had signed the same document. All such counterparts shall be deemed an original, shall be construed together and shall constitute one and the same instrument. Signature pages of this Agreement may be exchanged by facsimile or other electronic means without affecting the validity thereof.

[signature page follows]

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

LES LABORATOIRES SERVIER

By: /s/ M. Eric FALCAND

Name: M. Eric FALCAND

Title: Proxy

By: /s/ M. Christian BAZANTAY

Name: M. Christian BAZANTAY

Title: Proxy

INSTITUT DE RECHERCHES INTERNATIONALES SERVIER

By: /s/ Dr. Emmanuel CANET

Name: Dr. Emmanuel CANET

Title: President of R&D

AMGEN INC.

By: /s/ Sean Harper

Name: Sean Harper

Title: EVP Research & Development

CYTOKINETICS, INCORPORATED

By: /s/ Robert I. Blum

Name: Robert I. Blum

Title: President & CEO

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

Exhibit 31.1

CERTIFICATION OF THE CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302 (a) OF THE SARBANES-OXLEY ACT OF 2002

I, Robert I. Blum, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Cytokinetics, Incorporated;

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 the 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 that 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.

Dated: November 3, 2016

By: /s/ Robert I. Blum
Robert I. Blum
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF THE CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 (a) OF THE SARBANES-OXLEY ACT OF 2002

I, Sharon A. Barbari, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Cytokinetics, Incorporated;

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 the 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 that 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.

Dated: November 3, 2016

By: /s/ Sharon A. Barbari
Sharon A. Barbari
Executive Vice President, Finance and
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION OF THE CHIEF EXECUTIVE OFFICER
AND CHIEF FINANCIAL OFFICER
PURSUANT TO
18. U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Cytokinetics, Incorporated on Form 10-Q for the quarterly period ended September 30, 2016 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Form 10-Q fairly presents in all material respects the financial condition and results of operations of Cytokinetics, Incorporated.

Dated: November 3, 2016

/s/ Robert I. Blum
Robert I. Blum
President and Chief Executive Officer
(Principal Executive Officer)

/s/ Sharon A. Barbari
Sharon A. Barbari
Executive Vice President, Finance and
Chief Financial Officer
(Principal Financial Officer)