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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, 2015

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: 000-51173

Catalyst Biosciences, Inc.
(Exact Name of Registrant as Specified in its Charter)

Delaware	**56-2020050**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**
260 Littlefield Ave. South San Francisco, California	**94080**
(Address of Principal Executive Offices)	**(Zip Code)**

(650) 266-8674
(Registrant's Telephone Number, Including Area Code)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T 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 ☒

As of October 30, 2015, the number of outstanding shares of the registrant's common stock, par value $0.001 per share, was 11,427,983

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CATALYST BIOSCIENCES, INC.
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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

Catalyst Biosciences, Inc.
Condensed Consolidated Balance Sheets
(In thousands, except shares and per share amounts)

	September 30, 2015 (Unaudited)	December 31, 2014
Assets		
Current assets:		
Cash and cash equivalents	$ 23,096	$ 1,544
Short-term investments	13,665	—
Restricted cash	34,825	50
Deposits	—	278
Accounts receivable	648	95
Prepaid and other current assets	620	103
Total current assets	72,854	2,070
Restricted cash, noncurrent	125	—
Property and equipment, net	709	911
Long-term investments	825	—
Total assets	$ 74,513	$ 2,981
Liabilities and stockholders' equity (deficit)		
Current liabilities:		
Accounts payable	$ 669	$ 249
Accrued compensation	823	281
Other accrued liabilities	517	30
Deferred revenue, current portion	438	1,750
Deferred rent, current portion	8	26
Redeemable convertible notes	34,775	—
Derivative liability	676	—
Total current liabilities	37,906	2,336
Deferred revenue, noncurrent portion	401	729
Warrant liability	—	391
Total liabilities	38,307	3,456
Convertible preferred stock and Stockholders' equity (deficit):		
Convertible preferred stock:		
Convertible preferred stock, $0.001 par value; 0 and 88,469,871 shares authorized as of September 30, 2015 (unaudited) and December 31, 2014; 0 and 87,405,011 shares issued and outstanding as of September 30, 2015 (unaudited) and December 31, 2014, aggregate liquidation preference of $0 and $118,678 as of September 30, 2015 (unaudited) and December 31, 2014	—	108,877
Stockholders' equity (deficit):		
Preferred stock, $0.001 par value, 5,000,000 shares and no shares authorized at September 30, 2015 (unaudited) and December 31, 2014; no shares issued and outstanding at September 30, 2015 (unaudited) and December 31, 2014	—	—
Common stock, $0.001 par value, 105,000,000 shares and 110,000,000 shares authorized at September 30, 2015 (unaudited) and December 31, 2014; 11,411,680 and 370,944 shares issued and outstanding at September 30, 2015 (unaudited) and December 31, 2014	11	—
Additional paid-in capital	162,086	6,923
Accumulated other comprehensive income	16	—
Accumulated deficit	(125,907)	(116,275)
Total stockholders' equity (deficit)	36,206	(109,352)
Total liabilities and stockholders' equity (deficit)	$ 74,513	$ 2,981

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

Catalyst Biosciences, Inc.
Condensed Consolidated Statements of Operations
(In thousands, except shares and per share amounts)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2015	2014	2015	2014
Contract revenue	$ 109	$ 547	$ 1,641	$ 1,141
Operating expenses:				
Research and development	1,486	1,336	4,192	3,871
General and administrative	2,508	849	6,567	2,980
Total operating expenses	3,994	2,185	10,759	6,851
Loss from operations	(3,885)	(1,638)	(9,118)	(5,710)
Interest and other income, net	273	136	964	399
Interest expense	(1,439)	—	(1,478)	—
Net loss	$ (5,051)	$ (1,502)	$ (9,632)	$ (5,311)
Net loss per common share:				
Basic and diluted	$ (0.93)	$ (4.08)	$ (4.65)	$ (14.49)
Shares used to compute net loss per common share:				
Basic and diluted	5,410,864	368,461	2,071,161	366,455

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

Catalyst Biosciences, Inc.
Condensed Consolidated Statements of Comprehensive Loss
(In thousands)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2015	2014	2015	2014
Net loss	$ (5,051)	$ (1,502)	$ (9,632)	$ (5,311)
Other comprehensive income (loss):				
Unrealized gain on available-for-sale securities, net of tax	16	—	16	—
Total comprehensive loss	$ (5,035)	$ (1,502)	$ (9,616)	$ (5,311)

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

Catalyst Biosciences, Inc.
Condensed Consolidated Statements of Convertible Preferred Stock and Stockholders' Equity (Deficit)
(In thousands, except share amounts)
(Unaudited)

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount				
Balance at December 31, 2014	87,405,011	$ 108,877	370,944	$ —	$ 6,923	$ —	$ (116,275)	$ (109,352)
Stock based compensation expense associated with vesting of stock awards	—	—	—	—	135	—	—	135
Stock options exercised for cash	—	—	3,820	—	13	—	—	13
Conversion of convertible notes - related parties to Series F convertible preferred stock	1,511,723	1,511	—	—	—	—	—	—
Issuance of series F convertible preferred stock, net of issuance costs of $96	5,788,522	7,259	—	—	—	—	—	—
Conversion of preferred stock to common stock in connection with merger	(94,705,256)	(117,647)	6,148,161	6	117,641	—	—	117,647
Conversion of preferred stock warrants to common stock warrants in connection with merger	—	—	—	—	774	—	—	774
Issuance of common stock in connection with reverse merger	—	—	4,893,519	5	36,614	—	—	36,619
Common stock withheld and cancelled	—	—	(12,146)	—	(82)	—	—	(82)
Conversion of redeemable convertible notes to common stock	—	—	7,382	—	68	—	—	68
Unrealized gain on available-for-sale securities, net of tax	—	—	—	—	—	16	—	16
Net loss	—	—	—	—	—	—	(9,632)	(9,632)
Balance at September 2015	—	$ —	11,411,680	$ 11	$ 162,086	$ 16	$ (125,907)	$ 36,206

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

Catalyst Biosciences, Inc.
Condensed Consolidated Statements of Cash Flows
(In thousands)
(Unaudited)

	Nine Months Ended September 30,	
	2015	2014
Operating Activities		
Net loss	$ (9,632)	$ (5,311)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	135	189
Depreciation and amortization	365	601
Non-cash interest expense on convertible notes	1,478	—
Loss on disposal of fixed assets	11	77
Gain on extinguishment of redeemable convertible notes	(39)	—
Change in fair value of warrant liability	(91)	—
Change in fair value of derivative liability	(740)	—
Changes in operating assets and liabilities:		
Accounts receivable	(235)	6
Prepaid and other current assets	(56)	128
Accounts payable	(4,543)	(224)
Accrued compensation and other accrued liabilities	1,029	(38)
Deferred rent	(18)	(117)
Deferred revenue	(1,640)	359
Net cash flows used in operating activities	(13,976)	(4,330)
Investing Activities		
Proceeds from the reverse merger	23,931	—
Proceeds from maturities of securities investments	2,750	—
Change in restricted cash	(125)	—
Purchases of property and equipment	(174)	—
Proceeds from sale of fixed assets	—	98
Net cash flows provided by investing activities	26,382	98
Financing Activities		
Release of restricted cash due to conversion and redemption of redeemable convertible notes	2,225	—
Payments for the redemption of redeemable convertible notes	(2,157)	—
Proceeds from issuance of convertible preferred stock, net of issuance costs	7,259	4,982
Proceeds from issuance of convertible notes and warrants to related parties	1,888	—
Repurchase of common stock in connection with equity award assumed	(82)	—
Proceeds from the exercise of common stock options	13	25
Net cash flows provided by financing activities	9,146	5,007
Net increase in cash and cash equivalents	21,552	775
Cash and cash equivalents at beginning of period	1,544	2,828
Cash and equivalents at end of period	$ 23,096	$ 3,603
Supplemental Disclosure of Non-Cash Investing and Financing Information:		
Conversion of convertible notes to Series F convertible preferred stock	$ 1,511	$ —
Conversion of preferred stock to equity upon reverse merger	117,647	—
Conversion of preferred stock warrant liabilities to equity upon reverse merger	774	—
Investment securities received from the reverse merger	17,223	—
Redeemable convertible notes assumed upon reverse merger	37,073	—
Issuance of common stock in connection with conversion of convertible notes	68	—
Derivative liability related to redeemable convertible notes	1,455	—

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

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

1. Nature of Operations and Basis of Presentation

Catalyst Biosciences, Inc. (the "Company" or "Catalyst"), was incorporated in the state of Delaware on March 7, 2009. The Company is a clinical-stage biotechnology company focused on engineering proteases as therapeutics for hemophilia, hemostasis, compliment-mediated diseases, and other unmet medical needs. The Company is located in South San Francisco, California and we operate our business as a single segment, as defined by U.S. generally accepted accounting principles ("U.S. GAAP").

Reverse Merger

Prior to August 20, 2015, the name of the Company was Targacept, Inc. ("Targacept"). On August 20, 2015, Targacept completed its business combination with Catalyst Bio, Inc., previously named Catalyst Biosciences, Inc. ("Old Catalyst"), in accordance with the terms of an Agreement and Plan of Merger, dated as of March 5, 2015, as amended on May 6 and May 13, 2015 (the "Merger Agreement"), by and among Targacept, Talos Merger Sub, Inc. ("Merger Sub") and Old Catalyst, pursuant to which Merger Sub merged with and into Old Catalyst, with Old Catalyst surviving as a wholly-owned subsidiary of Targacept (the "Merger"). Also on August 20, 2015, in connection with, and prior to the completion of, the Merger, Targacept effected a 7-for-1 reverse stock split of its common stock (the "Reverse Stock Split") and changed its name from Targacept, Inc. to Catalyst Biosciences, Inc. Following the completion of the Merger, the business conducted by the Company became primarily the business conducted by Old Catalyst described in the paragraph above.

These unaudited interim condensed consolidated financial statements reflect the historical results of Old Catalyst prior to the completion of the Merger, and do not include the historical results of Targacept prior to the completion of the Merger. All 2015 share and per share disclosures have been adjusted to reflect the exchange of shares in the Merger, and the 7-for-1 reverse stock split of the common stock on August 20, 2015. Under U.S. GAAP, the Merger is treated as a "reverse merger" under the purchase method of accounting. For accounting purposes, Old Catalyst is considered to have acquired Targacept. See Note 5 for further details on U.S. GAAP accounting treatment.

Liquidity

The Company had an accumulated deficit of $125.9 million as of September 30, 2015 and expects to continue to incur losses for the next several years. As of September 30, 2015, the Company had $37.6 million in cash, cash equivalents and marketable securities. Management believes that the currently available resources will provide sufficient funds to enable the Company to meet its operating plan for at least the next twelve months. However, if the Company's anticipated operating results are not achieved in future periods, management believes that planned expenditures may need to be reduced in order to extend the time period over which the then-available resources would be able to fund the Company's operations.

2. Summary of Significant Accounting Policies

Basis of Presentation

The Company's consolidated financial statements have been prepared in accordance with U.S. GAAP and following the requirements of the Securities and Exchange Commission (the "SEC") for interim reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by U.S. GAAP can be condensed or omitted. These financial statements have been prepared on the same basis as the Company's annual financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal recurring adjustments, which are necessary for a fair statement of the Company's financial information. These interim results are not necessarily indicative of the results to be expected for the year ending December 31, 2015 or for any other interim period or for any other future year. The balance sheet as of December 31, 2014 has been derived from audited financial statements at that date but does not include all of the information required by U.S. GAAP for complete financial statements.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

The accompanying condensed financial statements and related financial information should be read in conjunction with the audited financial statements for the year ended December 31, 2014 and the related notes thereto contained in the Company's Current Report on Form 8-K/A, filed with the SEC on October 23, 2015.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. On an ongoing basis, management evaluates its estimates, including those related to revenue recognition, convertible preferred stock and related warrants up to the date of conversion, common stock and stock-based compensation. The Company bases its estimates on various assumptions that the Company believes to be reasonable under the circumstances. Actual results could differ from those estimates.

Cash and Cash Equivalents

The Company invests its excess cash in bank deposits, consisting primarily of money market mutual funds. The Company considers all highly liquid investments with original maturities of three months or less when purchased to be cash equivalents.

Restricted Cash

At September 30, 2015 and December 31, 2014, the Company had restricted cash of $35.0 million and $50,000, respectively. The restricted cash at September 30, 2015, includes a deposit in a segregated escrow account for the benefit of the holders of the redeemable convertible notes in order to facilitate the payment of the redeemable convertible notes upon redemption or at maturity as discussed in Note 6. $175,000 of restricted cash serves as collateral for the Company's corporate credit card and deposit for its facility lease.

Investments

All investments have been classified as "available-for-sale" and are carried at estimated fair value as determined based upon quoted market prices or pricing models for similar securities. Management determines the appropriate classification of its investments at the time of purchase and reevaluates such designation as of each balance sheet date. Unrealized gains and losses are excluded from earnings and are reported as a component of comprehensive loss. Realized gains and losses and declines in fair value determined to be other-than-temporarily impaired, if any, on available-for-sale securities are included in interest and other income, net. The cost of securities sold is based on the specific-identification method. Interest on marketable securities is included in interest and other income, net.

Derivative Liability

The derivative issued in connection with the redeemable convertible notes, which are convertible into shares of the Company's common stock, are classified as derivative liabilities at their estimated fair value. The derivative is subject to remeasurement at the end of each reporting period, with changes in fair value recognized as a component of interest and other income, net, in the consolidated statements of operations. The Company will continue to adjust the liability for changes in fair value until the earlier of the conversion, redemption or maturity of the redeemable convertible notes.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

Revenue Recognition

The Company enters into collaboration arrangements that may include the receipt of payments for up-front license fees, success-based milestone payments; full time equivalent based payments for research services, and royalties on any future sales of commercialized products that result from the collaborations.

Revenue related to collaborations is recognized when the four basic criteria for revenue recognition are met: (1) persuasive evidence of an arrangement exists; (2) transfer of technology has been completed or services have been rendered; (3) the fee is fixed or determinable; and (4) collectability is reasonably assured.

Revenue recognition for multiple element revenue arrangements will have deliverables associated with the arrangement divided into separate units of accounting provided that (i) a delivered item has value to the customer on a standalone basis and (ii) if the arrangement includes a general right of return relative to the delivered item, delivery or performance of the undelivered item is considered probable and substantially in the control of the vendor. As a biotechnology company with unique and specialized technological undelivered performance obligations associated with its collaborations, the Company's multiple element arrangements most often involve deliverables and consideration that do not meet the criteria for having stand-alone value.

Deliverables and performance obligations are accounted for under a single unit of accounting when they do not have stand-alone value and the related consideration is recognized as revenue over the estimated period of when the performance obligations are to be performed. The revenue is recognized on a proportional performance basis when the levels of the performance obligations under an arrangement can be reasonably estimated and on a straight-line basis when they cannot.

The Company's collaboration agreements entitle it to additional payments upon the achievement of performance-based milestones related to product development, regulatory actions and commercial events in certain geographic areas. Milestones that are not deemed probable or that are tied to counter-party performance are not included in the Company's revenue until the performance conditions are met. If a collaborative agreement milestone is deemed to be substantive, as defined in the accounting rules, the Company is permitted to recognize revenue related to the milestone payment in its entirety. Refer to Management's Discussion and Analysis of Financial Condition and Results of Operations "Revenue Recognition" section for further details.

In the event milestones are deemed non-substantive, the Company recognizes, and defers if applicable, payments for the achievement of such non-substantive milestones over the estimated period of performance applicable to each collaborative agreement using the proportional performance method or on a straight-line basis, as appropriate.

Collaborative agreement amounts received prior to satisfying revenue recognition criteria are recorded as deferred revenue in the accompanying balance sheets. Deferred revenue is recorded on the Company's balance sheet as short-term or long-term based on its best estimate as to when such revenue will be recognized. Short-term deferred revenue consists of amounts that the Company expects to recognize as revenue in the next 12 months. Amounts that the Company expects will not be recognized prior to the next 12 months are classified as long-term deferred revenue.

The Company's performance obligations under its collaboration arrangements also consist of participation on steering committees and the performance of other research and development and business development services. The timing for satisfying these performance obligations can be difficult to estimate and can be subject to change over the course of these agreements. A change in the estimated timing for satisfying the Company's performance obligations could change the timing and amount of revenue that the Company recognizes and records in future periods.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

Research and Development Expenses

Research and development costs are expensed as incurred. Research and development costs consist of payroll and other personnel-related expenses, laboratory supplies and reagents, contract research and development services, and consulting costs, as well as allocations of facilities and other overhead costs. Under the Company's collaboration agreements, certain specific expenditures are reimbursed by third parties. During the three months ended September 30, 2015 and 2014 and the nine months ended September 30, 2015 and 2014, the Company recorded a reduction to research and development expenses of $418,000, $90,000, $887,000 and $285,000, respectively.

Net Loss per Share

Basic net loss per share is calculated by dividing the net loss by the weighted average number of shares of common stock outstanding during the period, without consideration for common stock equivalents. Diluted net loss per share is the same as basic net loss per share, since the effects of potentially dilutive securities are antidilutive given the net loss of the Company.

3. Fair Value Measurements

Assets and liabilities recorded at fair value on a recurring basis in the balance sheets are categorized based upon the level of judgment associated with the inputs used to measure their fair values. Fair value is defined as the exchange price that would be received for an asset or an exit price that would be paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The authoritative guidance on fair value measurements establishes a three tier fair value hierarchy for disclosure of fair value measurements as follows:

- Level 1: Unadjusted quoted prices in active markets that are accessible at the measurement date for identical assets or liabilities.
- Level 2: Observable inputs other than quoted prices included within Level 1, such as quoted prices for similar assets or liabilities in active markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3: Unobservable inputs that are supported by little or no market data. Inputs reflect management's best estimate of what market participants would use in pricing the asset or liability at the measurement date.

As of September 30, 2015 and December 31, 2014, the Company's highly liquid money market funds included within cash equivalents and restricted cash including deposit in an escrow account are financial assets that are valued using Level 1 inputs. The Company classifies its U.S. government agency securities, municipal bonds and corporate notes as Level 2. Level 2 inputs for the valuations are limited to quoted prices for similar assets or liabilities in active markets and inputs other than quoted prices that are observable for the asset or liability. There were no transfers in or out of Level 1 and Level 2 during the periods presented.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

Liabilities that are measured at fair value consist of the derivative liability and the warrant for convertible preferred stock that utilize Level 3 inputs. There were no transfers in or out of Level 3 during the periods presented.

The following tables present the fair value hierarchy for assets and liabilities measured at fair value (in thousands):

	September 30, 2015			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Money market funds	$23,096	$ —	$ —	$23,096
Restricted cash (money market funds)	34,950	—	—	34,950
U.S. government agency securities	—	3,607	—	3,607
Municipal bonds	—	296	—	296
Corporate notes	—	10,587	—	10,587
Total financial assets	$58,046	$14,490	$ —	$72,536
Financial liabilities:				
Derivative liability	$ —	$ —	$ 676	$ 676
Total financial liabilities	$ —	$ —	$ 676	$ 676

	December 31, 2014			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Money market funds	$ 1,496	$ —	$ —	$ 1,496
Restricted cash (money market funds)	50	—	—	50
Total financial assets	$ 1,546	$	$ —	$ 1,546
Financial liabilities:				
Warrant for convertible preferred stock liability	$ —	$ —	$ 391	$ 391
Total financial liabilities	$ —	$ —	$ 391	$ 391

The fair value of the liability related to the warrant for convertible preferred stock is measured using the Black-Scholes option-pricing model. Inputs used to determine the estimated fair value of the warrant liability include the estimated fair value of the underlying convertible preferred stock at the valuation measurement date, the remaining contractual term of the warrant, risk-free interest rates, and expected dividends on and expected volatility of the price of the underlying preferred stock.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

The following table presents the activity for the liability related to the warrant for convertible preferred stock measured at estimated fair value using unobservable inputs for the nine months ended September 30, 2015 (in thousands):

Balance as of December 31, 2014	$ 391
Issuance of preferred stock warrants	474
Change in fair value included in interest and other income, net	(91)
Reclassification of warrant liability to equity upon conversion to common stock warrants	(774)
Balance as of September 30, 2015	$ —

The fair value of the derivative liability is measured using the Black-Scholes option-pricing valuation model. Inputs used to determine the estimated fair value of the conversion option include the fair value of the underlying common stock at the valuation measurement date, the remaining contractual term of the conversion option, risk-free interest rates, and expected dividends on and expected volatility of the price of the underlying common stock. In addition, the Company estimated the convertible redeemable note exchange rate based on an analysis of its actual exchange of notes for cash redemption or exchange of notes for conversion to common stock. See Note 7 for further detail.

The following table presents the activity for the derivative liability measured at estimated fair value using unobservable inputs as of September 30, 2015 (in thousands):

Balance as of December 31, 2014	$ —
Issuance of derivative issued with the redeemable convertible notes	1,455
Change in fair value included in interest and other income, net	(740)
Gain on extinguishment of redeemable convertible notes	(39)
Balance as of September 30, 2015	$ 676

4. Financial Instruments

Cash equivalents, restricted cash and short-term and long-term investments, all of which are classified as available-for-sale securities, consisted of the following (in thousands):

September 30, 2015	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Money market funds	$ 23,096	$ —	$ —	$ 23,096
Restricted cash	34,950	—	—	34,950
U.S. government agency securities	3,605	2	—	3,607
Municipal bonds	295	1	—	296
Corporate notes	10,574	13	—	10,587
Total financial assets	$ 72,520	$ 16	$ —	$ 72,536
Classified as:				
Cash and cash equivalents				$ 23,096
Restricted cash				34,950
Short-term investments				13,665
Long-term investments				825
				$ 72,536

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

December 31, 2014	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Money market funds	$ 1,496	$ —	$ —	$ 1,496
Restricted cash	50	—	—	50
Total financial assets	$ 1,546	$ —	$ —	$ 1,546
Classified as:				
Cash and cash equivalents				$ 1,496
Restricted cash				50
				$ 1,546

As of September 30, 2015, the remaining contractual maturities of available-for-sale securities were less than two years. There have been no significant realized gains or losses on available-for-sale securities for the periods presented.

5. Reverse Merger

Old Catalyst completed the Merger with Targacept as discussed in Note 1. Based on the terms of the Merger, Old Catalyst was deemed the acquiring company for accounting purposes, and the transaction has been accounted for as a reverse acquisition under the asset acquisition method of accounting in accordance with U.S. GAAP. Accordingly, the assets and liabilities of Targacept have been recorded as of the Merger closing date at estimated fair value.

Immediately prior to and in connection with the Merger, each share of Old Catalyst preferred stock outstanding was converted into shares of Old Catalyst common stock at ratios determined in accordance with the Old Catalyst certificate of incorporation then in effect. Under the terms of the Merger Agreement, at the effective time of the Merger, the Company issued shares of its common stock to Old Catalyst stockholders, at an exchange rate of 0.0382 shares of common stock, after taking into account the Reverse Stock Split, in exchange for each share of Old Catalyst common stock outstanding immediately prior to the Merger. The exchange rate was calculated by a formula that was determined through arms-length negotiations between Targacept and Old Catalyst. The Company assumed all of the outstanding options, whether or not vested, under the Catalyst 2004 Stock Plan, as amended (the “Catalyst Plan”), all of the standalone options of Old Catalyst that were not issued under the Catalyst Plan, and the warrants of Old Catalyst, whether or not vested, outstanding immediately prior to the Merger, with such options and warrants henceforth representing the right to purchase a number of shares of the Company’s common stock equal to 0.0382 multiplied by the number of shares of Old Catalyst common stock previously represented by such options and warrants. For accounting purposes, the Company is also deemed to have assumed the Targacept 2015 Stock Incentive Plan, the Targacept 2006 Stock Incentive Plan and the Targacept 2000 Equity Incentive Plan, as well as a standalone inducement stock option to Targacept’s former chief executive office upon commencement of his employment with Targacept in December 2012 (together, the “Targacept Plans and Options”).

Immediately after the Merger, there were 11,416,984 shares of the Company’s common stock outstanding and, Old Catalyst equity holders beneficially owned approximately 59% of the common stock of the Company.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

Purchase Consideration

The purchase price for Targacept on August 20, 2015, the closing date of the Merger, was as follows (in thousands):

Estimated fair value of shares issued	$ 34,664
Estimated fair value of awards assumed	1,955
Estimated fair value of redeemable convertible notes	37,073
Estimated total purchase price of net assets acquired, including assumed debt	$ 73,692

Allocation of Purchase Consideration

Under the acquisition method of accounting, the total purchase price was allocated to tangible and identifiable intangible assets acquired and liabilities assumed of Targacept on the basis of their estimated fair values as of the transaction closing date on August 20, 2015.

The following table summarizes the allocation of the purchase consideration to the assets acquired and liabilities assumed based on their fair values as of August 20, 2015 (in thousands):

Cash, cash equivalents and investments in marketable securities	$ 41,154
Restricted cash	37,000
Accounts receivable	318
Prepaid and other current assets	183
Accounts payable and accrued liabilities	(4,963)
Estimated total purchase price of net assets acquired, including assumed debt	$ 73,692

The Company believes that the historical values of Targacept's current assets and current liabilities approximate fair value based on the short-term nature of such items.

6. Convertible Notes – Related Parties

In May and June 2015, Old Catalyst issued and sold convertible promissory notes in a series of closings in the aggregate principal amount of $1.9 million to existing stockholders, together with warrants to purchase shares of either the Old Catalyst's Series E preferred stock or the capital stock issued during the next financing. The convertible promissory notes accrue interest at a rate of 12% per annum and will mature one year from the date of issuance. If Old Catalyst, prior to the payment in full of the convertible promissory notes, issues and sells shares of preferred stock or common stock in a single transaction or series of related transactions for aggregate cash proceeds to the Company of at least $3.0 million (excluding any amount invested by cancellation of the indebtedness represented by the convertible promissory notes), the outstanding principal amount and unpaid accrued interest of the convertible promissory notes will be automatically converted into shares of the securities sold in such financing at a conversion price equal to the price per share paid by investors for such securities in the financing. Alternatively, if Old Catalyst, prior to the payment in full of the convertible promissory notes, issues and sells shares of preferred stock of an equity financing of preferred stock or common stock for aggregate cash proceeds to Old Catalyst of less than $3.0 million, the outstanding principal amount and unpaid accrued interest of the convertible promissory notes may be converted, at the option of the holder, into the same type of securities issued in such financing at a conversion price equal to the price per share paid by investors for such securities in the financing. In addition, at any time prior to repayment or conversion in full of the convertible promissory notes, the outstanding principal amount and unpaid accrued interest of the convertible promissory note may be converted, at the option of the holder, into shares of Series E Preferred Stock at a conversion rate of $1.2706 per share.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

In connection with the debt financing, Old Catalyst also issued and sold to each investor purchasing a convertible promissory note a warrant to purchase equity securities of the same type that the principal amount of the convertible promissory note issued to such investor converts into. The warrants are exercisable for up to a number of shares equal to the quotient of: (a) 25% multiplied by the principal amount of the convertible promissory note issued to such investor divided by (b) the stock purchase price equal to: (i) in the case the notes convert in connection with a financing the price per share of the securities paid by investors in such financing or (ii) in the case that the warrant shares are Series E Preferred Stock, $1.2706 per share. The purchase price for each warrant was equal to 0.1% of the principal amount of the corresponding convertible promissory note. The exercise price for the warrant shares is equal to the stock purchase price.

The Company recorded the aggregate fair value of the warrants of $474,000 as a debt discount and convertible preferred stock warrant liability upon issuance of the convertible notes. The debt discount is accreted as additional interest expense over the term of the convertible promissory notes. The Company estimated the fair value of the warrants using an option-pricing valuation model with the following assumptions: expected term of five years, risk-free interest rate of 0.11% and 0.18%, expected volatility of 80.0% and a dividend yield of 0%.

For the three and nine months ended September 30, 2015, the Company recognized interest expense of $39,000 and $96,000 related to the accrued interest and amortization of the debt discount within interest expense on the Company's statement of operations and comprehensive loss.

As the recipients of the convertible promissory notes each have an equity ownership in the Company, the convertible promissory notes are considered to be a related-party transaction.

In conjunction with the second closing of the Series F convertible preferred stock financing discussed in Note 8, Old Catalyst and the majority holders of the Notes amended the Notes such that the closing constituted a qualified financing and, accordingly, the total outstanding principal amount of the Notes of $1.9 million and all unpaid accrued interest of $30,000, were converted into 1,511,723 shares of Series F convertible preferred stock and warrants for the purchase of 372,045 shares of Series F convertible preferred stock were issued to the Notes holders in connection with the conversion of the Notes to Series F convertible preferred stock. All preferred stock and warrants were converted to common stock and warrants to purchase common stock upon the closing of the Merger.

7. Redeemable Convertible Notes

On August 19, 2015, the Company issued to its stockholders non-interest bearing redeemable convertible notes (the "Notes") in the aggregate principal amount of $37.0 million, which is approximately $1.08 per share of the Company's common stock as of the record date, or $7.56 per share after giving effect to the Reverse Stock Split (the "Pre-Closing Dividend"). The notes do not bear interest. The principal amounts under notes are convertible, at the option of each noteholder, into cash or post Merger into shares of the Company's common stock at a conversion rate of $9.19 per share (after taking into account the Reverse Stock Split), and are payable in cash, if not previously redeemed or converted, at maturity on February 19, 2018, the 30-month anniversary of the closing of the issuance of the Notes.

In connection with the Pre-Closing Dividend, on August 19, 2015, Targacept entered into an indenture (the "Indenture") with American Stock Transfer & Trust Company, LLC, as trustee, and an escrow agreement with American Stock Transfer & Trust Company, LLC and Delaware Trust Company, LLC, as escrow agent, under which $37.0 million, which represents the initial principal amount of the convertible notes, was deposited in a segregated escrow account for the benefit of the holders of the notes in order to facilitate the payment of the notes upon redemption or at maturity (the amount of such deposit together with interest accrued and capitalized thereon, the "Escrow Funds"). The Notes are the Company's secured obligation, and the Indenture does not limit its other indebtedness, secured or unsecured.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

Holders of the Notes may submit conversion notices, which are irrevocable, instructing the trustee to convert such the Notes into shares of the common stock at a conversion price of $9.19 per share. Following each conversion date, the Company will issue the number of whole shares of common stock issuable upon conversion as promptly as practicable (and in any event within 10 business days). The trustee will in turn release to the Company the respective amount of restricted cash to cover the stock issuance.

The conversion to common stock feature of the Notes was determined to be an derivative liability requiring bifurcation and separate accounting. The fair value of such conversion feature at issuance was determined to be $1.5 million. The Company estimated the fair value of the conversion option using the Black-Scholes option-pricing valuation model with the following assumptions: expected term of 2.25 years, risk-free interest rate of 0.84%, expected volatility of 70.0%, anticipated future exchange rate of the Notes and a dividend yield of 0%.

The bifurcation of the derivative liability from the estimated fair value of the Notes of $37.1 million at issuance resulted in a debt discount of $1.4 million. The Company has elected to accrete the entire debt discount as interest expense immediately subsequent to the Merger. In addition, changes in the fair value of the derivative liability will be recorded within interest and other income, net in the statement of operations. The Company will periodically remeasure the derivative liability to fair value until the earlier of the conversion, redemption or maturity of the redeemable convertible notes.

For the three and nine months ended September 30, 2015, the Company recognized interest expense of $1.4 million related to the amortization of the debt discount within interest expense on the Company’s statement of operations as the redeemable convertible notes are immediately fully redeemable at the option of the holders.

As of September 30, 2015, $2.2 million of the Notes were redeemed and $68,000 of the Notes were converted into common stock. The Company recognized $39,000 of gain on the extinguishment of redeemable convertible notes upon the redemption of the Notes for the three and nine months ended September 30, 2015.

8. Convertible Preferred Stock and Warrants

In January 2015, Old Catalyst completed a Series F convertible preferred stock offering that generated cash proceeds of $3.3 million, net of $74,000 of issuance costs. In the offering, Old Catalyst issued 2,623,650 shares of Series F convertible preferred stock at a price of $1.2706 per share. The Series F convertible preferred stock had a conversion rate of 1:10 such that each individual share of Series F convertible preferred stock was convertible into ten shares of common stock. In July 2015, Old Catalyst completed a second closing of a Series F convertible preferred stock financing and issued 3,164,872 shares for cash proceeds of $4.0 million, net of $22,000 of issuance costs.

As discussed in Note 5, all outstanding shares of Old Catalyst’s convertible preferred stock and warrants to purchase convertible preferred stock were converted into shares of the Company’s common stock and warrants to purchase common stock upon completion of the merger.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

9. Stock Based Compensation

As discussed in Note 5, the Company assumed all of the outstanding options, whether or not vested, under the Catalyst Plan, all of the standalone options of Old Catalyst that were not issued under the Catalyst Plan, whether or not vested, outstanding immediately prior to the Merger, with such options henceforth representing the right to purchase a number of shares of the Company's common stock equal to 0.0382 multiplied by the number of shares of Old Catalyst common stock previously represented by such options. For accounting purposes, however, the Company is instead deemed to have assumed the Targacept Plans and Options (together with the Catalyst Plan and the standalone Catalyst options, the "Plans").

The following table summarizes stock option activity under the Plans including stock options granted to non-employees, and related information:

	Number of Shares Underlying Outstanding Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)
Outstanding — December 31, 2014	250,255	$ 8.97	5.51
Options granted	24,085	$ 6.66	
Options exercised	(3,820)	$ 3.38	
Options canceled	(81,994)	$ 28.38	
Options assumed in merger	1,420,823	$ 15.16	
Outstanding — September 30, 2015	1,609,349	$ 13.43	2.45
Exercisable — September 30, 2015	1,578,024	$ 13.52	2.33
Vested and expected to vest — September 30, 2015	1,609,349	$ 13.43	2.45

In connection with the Merger, the Company assumed stock options covering an aggregate of 1,420,823 shares of common stock.

Total stock-based compensation recognized was as follows (in thousands):

	Three Months ended September 30		Nine Months ended September 30	
	2015	2014	2015	2014
Research and development	$ 13	$ 20	$ 37	$ 61
General and administrative	39	36	98	128
Total stock-based compensation	$ 52	$ 56	$ 135	$ 189

As of September 30, 2015, the Company had unrecognized employee stock-based compensation expense of $177,000, related to unvested stock awards, which is expected to be recognized over an estimated weighted-average period of 1.97 years.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

10. Collaborations

Pfizer

On August 20, 2013, the Company and Pfizer, Inc. ("Pfizer") entered into an amendment to the Factor VIIa collaboration agreement whereby the companies agreed to provide specific mutual releases and covenants and modify certain milestone payment schedules in the agreement. Per the amendment, Pfizer agreed to make two non-refundable annual license maintenance payments to the Company, each $1.5 million, payable on August 1, 2014 and August 1, 2013. The annual license maintenance payments received were being amortized to contract revenue over the estimated expected performance period under the arrangement, which the Company estimated to end August 1, 2015.

On April 2, 2015, Pfizer notified the Company that it was exercising its right to terminate in its entirety the collaboration agreement. The termination became effective 60 days after the Company's receipt of the termination notice. On June 1, 2015, the license and certain rights under the research and license agreement terminated and reverted back to the Company. Pfizer is in the process of transferring clinical trial data, regulatory documentation and related technology under the research and license agreement to the Company. The Company plans to continue clinical development of this product candidate. The Company revised the expected period of performance to end on June 1, 2015, which was the effective termination of all performance obligations of the Company under the research and license agreement.

Contract revenue related to the agreement with Pfizer was zero and $438,000 during the three months ended September 30, 2015 and 2014, respectively, and $1.3 million and $813,000 during the nine months ended September 30, 2015 and 2014, respectively. The deferred revenue balance related to the Pfizer collaboration was zero and $1.3 million as of September 30, 2015 and December 31, 2014, respectively.

ISU Abxis

On June 16, 2013, the Company entered into a license and collaboration agreement with ISU Abxis, whereby the Company licensed its proprietary human Factor IX products to ISU Abxis for initial development in South Korea. Under the terms of the agreement, ISU Abxis is responsible for development and manufacturing of the licensed products through Phase 1 clinical trials. Until the completion of Phase 1 development, ISU Abxis also has a right of first refusal with respect to commercialization rights for the licensed products in South Korea. The Company has the sole rights and responsibility for worldwide development, manufacture and commercialization of Factor IX products after Phase 1 development, unless ISU Abxis has exercised its right of first refusal regarding commercialization rights in South Korea, in which case the Company's rights are in the entire world excluding South Korea. ISU's rights will also terminate in the event that the Company enters into a license agreement with another party to develop, manufacture and commercialize Factor IX products in at least two major market territories.

ISU Abxis paid the Company an up-front signing fee of $1.75 million and is obligated to pay to the Company contingent milestone-based payments on the occurrence of certain defined development events, and reimbursement for a portion of the Company's costs relating to intellectual property filings and maintenance thereof on products. The Company is obligated to pay ISU Abxis a percentage of all net profits it receives from collaboration products.

Contract revenue of $109,000 for both of the three months ended September 30, 2015 and 2014 and $328,000 for both of the nine months ended September 30, 2015 and 2014 reflected the amortization of the up-front fee over the estimated period of the Company's performance obligations under the agreement, which was assessed to be four years beginning in September 2013 when the agreement was executed. The deferred revenue balance related to the ISU Abxis collaboration was $839,000 and $1.2 million as of September 30, 2015, and December 31, 2014 respectively.

Catalyst Biosciences, Inc.
Notes to Condensed Consolidated Financial Statements (Unaudited)

11. Net Loss per Share

The following table sets forth the computation of the basic and diluted net loss per share during the three and nine months ended September 30, 2014 and 2015 (in thousands, except share and per share data):

	Three Months Ended, September 30,		Nine Months Ended September 30,	
	2015	2014	2015	2014
Net loss, basic and diluted	$ (5,051)	$ (1,502)	$ (9,632)	$ (5,311)
Weighted-average number of shares used in computing net loss per share, basic and diluted	5,410,864	368,461	2,071,161	366,455
Net loss per share, basic and diluted	$ (0.93)	$ (4.08)	$ (4.65)	$ (14.49)

Since the Company was in a loss position for all periods presented, diluted net loss per share is the same as basic net loss per share for all periods as the inclusion of all potential common shares outstanding would have been anti-dilutive. Potentially dilutive securities on an as-if converted basis that were not included in the diluted per share calculations because they would be anti-dilutive were as follows:

	September 30, 2015	December 31, 2014
Convertible preferred stock	—	3,338,871
Options to purchase common stock	1,609,349	250,255
Convertible preferred stock warrants	—	37,580
Common stock warrants	180,954	1,289
Redeemable convertible notes	3,783,976	—
Total	5,574,279	3,627,996

12. Subsequent events

Effective October 14, 2015 Catalyst Biosciences, Inc. issued the amended and restated 2015 Stock Incentive Plan, included in Exhibit 10.1.

CATALYST BIOSCIENCES, INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

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

Unless otherwise indicated, in this Quarterly Report on Form 10-Q, (i) references to "Catalyst," "we," "us," "our" or the "Company" mean Catalyst Biosciences, Inc. and our subsidiaries, (ii) the term "Old Catalyst" refers to our subsidiary, Catalyst Bio, Inc. (formerly known as Catalyst Biosciences, Inc.) prior to the consummation of the Merger and the term "Targacept" refers to the Company prior to the consummation of the Merger and (iii) discussions of historical results reflect the results of Old Catalyst prior to the completion of the Merger and do not include the historical results of Targacept prior to the completion of the Merger. You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our unaudited consolidated financial statements and related notes included in Part I, Item 1 of this quarterly report and Form 8-K.

In addition to historical information, this discussion and analysis contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements are identified by words such as "believe," "will," "may," "estimate," "continue," "anticipate," "intend," "should," "plan," "expect," "predict," "could," "potentially" or the negative of these terms or similar expressions. You should read these statements carefully because they discuss future expectations, contain projections of future results of operations or financial condition, or state other "forward-looking" information. These statements relate to our future plans, objectives, expectations, intentions and financial performance and the assumptions that underlie these statements. For example, forward-looking statements include any statements regarding the strategies, prospects, plans, expectations or objectives of management for future operations, the progress, scope or duration of the development of product candidates or programs, the benefits that may be derived from product candidates or the commercial or market opportunity in any target indication, our ability to protect intellectual property rights, our anticipated operations, financial position, revenues, costs or expenses, statements regarding future economic conditions or performance, statements of belief and any statement of assumptions underlying any of the foregoing. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those anticipated in the forward-looking statements. Factors that might cause such a difference include, but are not limited to, those discussed in this report in Part II, Item 1A — "Risk Factors," and elsewhere in this report. Forward-looking statements are based on our management's beliefs and assumptions and on information currently available to our management. These statements, like all statements in this report, speak only as of their date, and we undertake no obligation to update or revise these statements in light of future developments. We caution investors that our business and financial performance are subject to substantial risks and uncertainties.

Overview

We are a clinical-stage biopharmaceutical company focused on creating and developing novel products based on engineered human proteases. To date, we have focused our product development efforts on the treatment of hemophilia and surgical bleeding using long acting and potent variants of proteases that promote blood clotting, including coagulation Factors VIIa, IX and Xa, and in the prevention of delayed graft function, or DGF, in renal transplants and the treatment of dry age-related macular degeneration, or dry AMD, a condition that can cause visual impairment or blindness, using novel proteases that cleave complement factor C3.

Our most advanced program is an improved next-generation coagulation Factor VIIa variant, which has successfully completed a Phase 1 clinical trial in severe hemophilia A and B patients. Based on our research, annual worldwide sales in 2014 for FDA-approved Factor VIIa products were approximately $1.5 billion. In addition to our lead Factor VIIa program, we have two other next-generation coagulation factors, a Factor IX variant, that is in the advanced pre-clinical stage of development, and a Factor Xa variant, which is in the advanced lead stage of pre-clinical research. Based on our research, annual worldwide sales in 2014 for FDA-approved Factor IX and Factor Xa-containing products were approximately $1.8 billion. Catalyst seeks to develop these three product candidates to form the basis of a hemostasis franchise.

On June 29, 2009, we entered into a research and license agreement with Wyeth Pharmaceuticals, Inc., subsequently acquired by Pfizer, whereby we and Pfizer collaborated on the development of novel human Factor VIIa products, and we granted Pfizer the exclusive rights to develop and commercialize the licensed products on a worldwide basis. As a result, Pfizer paid us an up-front non-refundable signing fee of $21.0 million, which was initially recognized as revenue ratably over the term of our continuing involvement in the research and development of products with Pfizer, which was determined to be five years (covering the initial two-year research term plus potential extensions permitted under the applicable agreement).

During the initial two-years of the collaboration period, Pfizer reimbursed us for certain costs incurred in the development of the licensed products, including FTE-based research payments. Following the conclusion of the initial collaboration, without extension by Pfizer, we had no further substantive performance obligations to Pfizer under the agreement, and we recognized the remaining $12.6 million of deferred revenue related to the up-front fee in June 2011. Subsequently, in August 2013, we entered into an amendment to the Pfizer agreement, in accordance with which Pfizer made two $1.5 million non-refundable annual license maintenance payments to us in August 2013 and August 2014 and we agreed to certain performance obligations to Pfizer for the period starting from the effective date of the amendment. Pfizer was also obligated to pay to us contingent milestone-based payments upon the occurrence of certain defined development, commercialization, and sales-based milestones.

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On April 2, 2015, Pfizer notified us that it was exercising its right to terminate the research and license agreement effective June 1, 2015. Accordingly, we revised the expected period of performance to end on June 1, 2015, and accordingly, the deferred revenue balance was fully amortized as of that date.

In September 2013, we entered into a license and collaboration agreement with ISU Abxis pursuant to which we licensed our proprietary human Factor IX products to ISU Abxis for initial development in South Korea. Under the agreement, ISU Abxis is responsible for development and manufacturing of the licensed products through Phase 1 clinical trials. Until the completion of Phase 1 development, ISU Abxis also has a right of first refusal with respect to commercialization rights for the licensed products in South Korea. ISU Abxis paid us an up-front signing fee of $1.8 million and is obligated to pay to us contingent milestone-based payments on the occurrence of certain defined development events, none of which have been achieved as of September 30, 2015.

On August 20, 2015, we completed the business combination between Old Catalyst and Targacept in accordance with the terms of the Agreement and Plan of Merger, dated as of March 5, 2015, as amended on May 6 and May 13, 2015 (the "Merger Agreement"). Also on August 20, 2015, in connection with, and prior to the completion of, the Merger, we effected a 7-for-1 reverse stock split of our common stock (the "Reverse Stock Split") and changed our name to "Catalyst Biosciences, Inc."

Immediately prior to and in connection with the Merger, each share of Old Catalyst preferred stock outstanding was converted into shares of Old Catalyst common stock at ratios determined in accordance with the Old Catalyst certificate of incorporation then in effect. Under the terms of the Merger Agreement, at the effective time of the Merger, we issued shares of our common stock to Old Catalyst stockholders, at an exchange rate of 0.0382 shares of common stock, after taking into account the Reverse Stock Split, in exchange for each share of Old Catalyst common stock outstanding immediately prior to the Merger. The exchange rate was calculated by a formula that was determined through arms-length negotiations between Targacept and Old Catalyst. Immediately after the Merger, there were 11,416,984 shares of our common stock outstanding, and the former Old Catalyst equity holders beneficially owned approximately 59% of our common stock. The Merger was accounted for as a reverse asset acquisition.

Financial Operations Overview

Contract Revenue

Our contract revenue was generated by recognizing revenue from the amortization of up-front licensee fees for research and development services under its collaboration agreements with Pfizer and ISU Abxis. Payments made under these agreements are recognized over the period of performance for each arrangement. We may also be entitled to additional milestone payments and other contingent payments upon the occurrence of specific events. We have not generated any revenue from commercial product sales to date.

For the three and nine months ended September 30, 2015 and 2014, revenue from Pfizer and ISU Abxis represented the following percentage of our total contract revenue:

	Three months ended September 30,		Nine months ended September 30,	
	2015	2014	2015	2014
Pfizer (Wyeth)	0%	80%	80%	71%
ISU Abxis	100%	20%	20%	29%

Due to the nature of the milestone payments under the remaining collaboration agreement and the nonlinearity of the earnings process associated with certain payments and milestones, we expect that our revenue will fluctuate in future periods, as a result of the uncertainty of timing related to achievement of milestones.

Research and Development Expenses

Research and development expenses represent costs incurred to conduct research, such as the discovery and development of our product candidates. We recognize all research and development costs as they are incurred.

Research and development expenses consist primarily of the following:

- employee-related expenses, which include salaries, benefits and stock-based compensation;
- laboratory and vendor expenses, including payments to consultants, related to the execution of pre-clinical, non-clinical, and clinical studies; and
- facilities and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, depreciation and amortization expense and other supplies.

The following table summarizes our research and development expenses during the three and nine months ended September 30, 2015 and 2014:

	Three months ended September 30,		Nine months ended September 30,	
	2015	2014	2015	2014
	(in thousands)			
Personal costs	$ 836	$ 486	$ 2,097	$ 1,573
Pre-clinical research	342	352	1,046	771
Facility and overhead	308	498	1,049	1,527
Total research and development expenses	$ 1,486	$ 1,336	$ 4,192	$ 3,871

The largest component of our total operating expenses has historically been its investment in research and development activities, including the clinical development of our product candidates. We are currently focusing substantially all of our resources and development efforts on our pre-clinical pipeline. Our internal resources, employees and infrastructure are not directly tied to individual product candidates or development programs. As such, we do not maintain information regarding these costs incurred for these research and development programs on a project-specific basis.

We expect our research and development expenses will increase during the next few years as we continue the pre-clinical and clinical development, and pursue regulatory approval of our product candidates in the United States. Due to the termination of the research and license agreement with Pfizer, we expect to incur costs in connection with the Factor VIIa program. However, the incurrence of such costs are dependent on whether we will pursue the program on our own or enter into a new collaboration and license arrangement with another pharmaceutical or biotech company.

The process of conducting clinical trials necessary to obtain regulatory approval is costly and time consuming. We may never succeed in achieving marketing approval for our product candidates. The probability of success of each product candidate may be affected by numerous factors, including clinical data, competition, manufacturing capability and commercial viability. As a result, we are unable to determine the duration of and costs to complete our research and development projects or when and to what extent we will generate revenue from the commercialization and sale of any of our product candidates.

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Successful development of current and future product candidates is highly uncertain. Completion dates and costs for our research programs can vary significantly for each current and future product candidate and are difficult to predict. As a result, we cannot estimate with any degree of certainty the costs we will incur in connection with development of our product candidates. We anticipate we will make determinations as to which programs and product candidates to pursue and how much funding to direct to each program and product candidate on an ongoing basis in response to the scientific success of early research programs, results of ongoing and future clinical trials, our ability to enter into collaborative agreements with respect to programs or potential product candidates, as well as ongoing assessments as to each current or future product candidate's commercial potential.

General and Administrative Expenses

General and administrative expenses consist of personnel costs, allocated expenses and other expenses for outside professional services, including legal, human resources, audit and accounting services. Personnel costs consist of salaries, bonus, benefits and stock-based compensation. We expect to incur additional expenses as a result of becoming a public company following completion of the merger in August 2015, including expenses related to compliance with the rules and regulations of the SEC and NASDAQ Stock Market LLC ("NASDAQ"), additional insurance expenses, investor relations activities and other administrative expenses and professional services.

Interest and Other Income, net

Interest and other income, net consists primarily of change in fair value of derivative liability, change in fair value of warrant liability and sub-lease income earned in connection with the sub-lease of a portion of our leased facility.

Prior to the closing of the merger in August 2015, the derivative liability was issued in connection with the redeemable convertible notes, which are convertible into shares of our common stock. The accounting for this instrument requires us to bifurcate the derivative liability. It is classified as a derivative liability at its estimated fair value. We will record adjustments to the fair value of the derivative liability at the end of each reporting period until the earlier of the conversion, redemption or maturity of the redeemable convertible notes.

Change in fair value of warrant liability consisted of gains and losses resulting from the remeasurement of our preferred stock warrant liability. We recorded adjustments to the estimated fair value of the preferred stock warrants until they converted into warrants to purchase shares of common stock upon the closing of the merger in August 2015. At that time, we reclassified the preferred stock warrant liability into additional paid-in capital and no longer recorded any related periodic fair value adjustments.

On August 22, 2013, we entered into a sub-lease agreement with another biotech company whereby the sub-lessee agreed to sub-lease a portion of our leased facility in South San Francisco, California. Under the sub-lease agreement, the sub-lessee paid rent and a share of facility operating expenses monthly to us until our lease and the sub-lease expired in February 2015.

Interest Expense

Interest expense consists of immediate accretion of debt discount related to the redeemable convertible notes subsequent to the merger as the redeemable convertible notes are immediately redeemable at the option of the holders and accrued interest costs related to our convertible notes payable and includes the amortization of debt discount for the warrants that were issued in connection with the convertible notes payable.

Critical Accounting Polices and Estimates

Management's discussion and analysis of financial condition and results of operations is based on its financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. On an ongoing basis, we evaluate these estimates and judgments. Management bases its estimates on historical experience and on various assumptions that it believes to be reasonable under the circumstances. These estimates and assumptions form the basis for making judgments about the carrying values of assets and liabilities and the recording of revenues and expenses that are not readily apparent from other sources. Actual results may differ materially from these estimates. We believe that the accounting policies discussed below are critical to understanding its historical and future performance, as these policies relate to the more significant areas involving management's judgments and estimates.

Revenue Recognition

We generate revenue from collaboration agreements pursuant to which we seek the development and commercialization of our product candidates. Collaboration agreements provide for the payment to us of up-front license fees, success-based milestone payments, FTE-based payments for research services and royalties on any future sales of commercialized products that result from the collaboration. Our performance obligations under its collaboration agreements include licenses of intellectual property rights, obligations to provide research and development services, related clinical drug supply and regulatory approval services; and obligations to participate on certain development and/or commercialization committees with the collaborators.

Payments of up-front license fees are recorded as deferred revenue in our balance sheet and are recognized as contract revenue over our estimated period of performance in a manner consistent with the terms of the research and development obligations contained in the respective collaboration agreement. We regularly review the estimated periods of performance related to our collaboration agreements based on the progress made under each arrangement. Our estimates of our performance period may change over the course of the agreement term. Such a change could have a material impact on the amount of revenue we record in future periods.

Payments to us for research and development and regulatory approval services are recognized as the services are performed, in accordance with the respective contract terms. Payments for such services may be made to or by us based on the number of full-time equivalent researchers assigned to the collaboration project and the related research and development expenses incurred.

Revenue recognition for multiple element revenue arrangements will have deliverables associated with the arrangement divided into separate units of accounting provided that (i) a delivered item has value to the customer on a standalone basis and (ii) if the arrangement includes a general right8 of return relative to the delivered item, delivery or performance of the undelivered item is considered probable and substantially in the control of the vendor. As a biotechnology company with unique and specialized technological undelivered performance obligations associated with its collaborations, our multiple element arrangements have in the past often involved deliverables and consideration that do not meet the criteria for having stand-alone value.

Such deliverables and consideration must be accounted for under a single unit of accounting along with other arrangement deliverables and consideration that do not have stand-alone value and are recognized as revenue over the estimated period that the performance obligations are to be performed. The revenue is recognized on a proportional performance basis when the levels of the performance obligations under an arrangement can be reasonably estimated and on a straight-line basis when they cannot.

We also adopted guidance that permits the recognition of revenue contingent upon the achievement of a milestone in its entirety, in the period in which the milestone is achieved, only if the milestone meets certain criteria and is considered to be substantive. As such, we plan to recognize revenue in the period in which the milestone is achieved, only if the milestone is considered to be substantive based on the following criteria:

- the milestone is commensurate with either (i) the vendor's performance to achieve the milestone, or (ii) the enhancement of the value of the delivered item or items as a result of a specific outcome resulting from the vendor's performance to achieve the milestone;
- the milestone relates solely to past performance; and
- the milestone is reasonable relative to all of the deliverables and payment terms (including other potential milestone consideration) within the arrangement.

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Accrued Research and Development Expenses

We record accrued expenses for estimated costs of our research and development activities conducted by external service providers, which include the conduct of pre-clinical studies and clinical trials and contract manufacturing activities. We record the estimated costs of research and development activities based upon the estimated amount of services provided but not yet invoiced, and includes these costs in accrued liabilities in the balance sheet and within research and development expense in the statement of operations. These costs are a significant component of our research and development expenses. We record accrued expenses for these costs based on the estimated amount of work completed and in accordance with agreements established with these external service providers.

We estimate the amount of work completed through discussions with internal personnel and external service providers as to the progress or stage of completion of the services and the agreed-upon fee to be paid for such services. We make significant judgments and estimates in determining the accrued balance in each reporting period. As actual costs become known, we adjust its accrued estimates.

Results of Operations

Comparison of three months ended September 30, 2015 and September 30, 2014

	Three Months Ended September 30,		Increase/ (Decrease)	% Increase/ (Decrease)
	2015	2014		
Contract revenue	$ 109	$ 547	$ (438)	(80%)
Operating expenses:				
Research and development	1,486	1,336	150	11%
General and administrative	2,508	849	1,659	195%
Total operating expenses	3,994	2,185	1,809	83%
Loss from operations	(3,885)	(1,638)	(2,247)	137%
Interest and other income, net	273	136	137	101%
Interest expense	(1,439)	—	(1,439)	*
Net loss	$ (5,051)	$ (1,502)	$ (3,549)	236%

* *Percentage change not meaningful*

Contract Revenue

Contract revenue decreased by $0.4 million, or 80%, from $0.5 million during the three months ended September 30, 2014 to $0.1 million during the three months ended September 30, 2015. The decrease in contract revenue was primarily due to the termination of our collaboration agreements with Pfizer in April 2015.

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Research and Development Expenses

Research and development expenses increased by $0.2 million, or 11%, from $1.3 million during the three months ended September 30, 2014 to $1.5 million during the three months ended September 30, 2015. The increase was primarily due to an increase of $0.4 million in personnel-related costs partially offset by a decrease of $0.2 million in facilities-related costs primarily as a result of our leasing less space following the new lease agreement we entered into in February 2015.

General and Administrative Expenses

General and administrative expenses increased by $1.7 million, or 195%, from $0.8 million during the three months ended September 30, 2014 to $2.5 million during the three months ended September 30, 2015. The increase was primarily due to an increase of $1.2 million in professional service costs, including patent related legal costs and merger related legal and accounting advisory services and an increase of $0.4 million in personnel-related costs due to increase of our headcount in preparation of operating as a public company.

Interest and Other Income, Net

Interest and other income, net increased by $0.2 million, or 101%, from $0.1 million for the three months ended September 30, 2014 to $0.3 million for the three months ended September 30, 2015 was primarily due to $0.8 million gain related to change in fair value of derivative liability, partially offset by $0.5 million loss related to change in fair value of warrant liability and $0.1 million of decrease in sub-lease income due to the February 2015 expiration of a sub-lease agreement.

Interest Expense

Interest expense of $1.4 million for the three months ended September 30, 2015 is primarily related to $1.4 million of immediate accretion of the debt discount for the redeemable convertible notes. We did not have any debt obligations in 2014.

Comparison of nine months ended September 30, 2015 and September 30, 2014

	Nine Months Ended September 30,		Increase/ (Decrease)	% Increase/ (Decrease)
	2015	2014		
Contract revenue	$ 1,641	$ 1,141	$ 500	44%
Operating expenses:				
Research and development	4,192	3,871	321	8%
General and administrative	6,567	2,980	3,587	120%
Total operating expenses	10,759	6,851	3,908	57%
Loss from operations	(9,118)	(5,710)	3,408	60%
Interest and other income, net	964	399	565	142%
Interest expense	(1,478)	—	(1,478)	*
Net loss	$ (9,632)	$ (5,311)	$ (4,321)	81%

Contract Revenue

Contract revenue increased by $0.5 million, or 44%, from $1.1 million during the nine months ended September 30, 2014 to $1.6 million during the nine months ended September 30, 2015. The increase in contract revenue was primarily due to the acceleration of recognition of the contract revenue payment received under our collaboration agreements with Pfizer in connection with the termination of the agreement in April 2015.

Research and Development Expenses

Research and development expenses increased by $0.3 million, or 8%, from $3.9 million during the nine months ended September 30, 2014 to $4.2 million during the nine months ended September 30, 2015. The increase was primarily due to an increase of $0.3 million in lab supply costs and costs related to pre-clinical third-party research and development service contracts, and an increase of $0.5 million in personnel-related costs in connection with increased research and development activities. The increases were partially offset by a decrease of $0.5 million in facilities-related costs primarily as a result of our leasing less space following the new lease agreement entered into in February 2015.

General and Administrative Expenses

General and administrative expenses increased by $3.6 million, or 120%, from $3.0 million during the nine months ended September 30, 2014 to $6.6 million during the nine months ended September 30, 2015. The increase was primarily due to an increase of $3.0 million in professional service costs, including patent related legal costs and merger related legal and accounting advisory services and an increase of $0.6 million in personnel-related costs as a result of increased head count in preparation of operating as a public company.

Interest and Other Income, Net

Interest and other income, net increased by $0.6 million, or 142%, from $0.4 million for the nine months ended September 30, 2014 to $1.0 million for the nine months ended September 30, 2015. The increase was primarily due to $0.8 million gain related to the change in fair value of the derivative liability and $0.1 million gain related to change in fair value of warrant liability, partially offset by a $0.3 million decrease in sub-lease income recognized in connection with the February 2015 expiration of a sub-lease agreement.

Interest Expense

Interest expense of $1.5 million for the nine months ended September 30, 2015 related to $0.1 million of the accrued interest and amortization of the debt discount for the convertible notes issued to related parties in May and June 2015 and $1.4 million related to the immediate accretion of the debt discount for the redeemable convertible notes. We did not have any debt obligations in 2014.

Liquidity and Capital Resources

On August 20, 2015, we completed our Merger with Targacept, which provided $41.2 million in cash, cash equivalents and marketable securities. Prior to that time, our operations had been financed primarily by net proceeds from the sale of convertible preferred stock, and the issuance of convertible notes. As of September 30, 2015, we had $37.6 million of cash, cash equivalents and marketable securities. We have an accumulated deficit of $125.9 million as of September 30, 2015.

Our primary uses of cash are to fund operating expenses, including research and development expenditures and general and administrative expenditures. Cash used to fund operating expenses is impacted by the timing of when we pay these expenses, as reflected in the change in its outstanding accounts payable and accrued expenses.

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We believe that our existing capital resources will 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. We plan to continue to fund losses from operations and capital funding needs through future equity and/or debt financings, as well as potential additional collaborations or strategic partnerships with other companies. The sale of additional equity or convertible debt could result in additional dilution to our stockholders. The incurrence of indebtedness would result in debt service obligations and could result in operating and financing covenants that would restrict our operations. We can provide no assurance that financing will be available in the amounts we need or on terms acceptable to us, if at all. If we are not able to secure adequate additional funding we may be forced to delay, make reductions in spending, extend payment terms with suppliers, liquidate assets where possible, and/or suspend or curtail planned programs. Any of these actions could materially harm our business.

The following table summarizes our cash flows for the periods indicated:

	Nine Months Ended September 30,	
	2015	2014
	(In thousands)	
Cash used in operating activities	$(13,976)	$ (4,330)
Cash provided by investing activities	26,382	98
Cash provided by financing activities	9,146	5,007
Net increase in cash	$ 21,552	$ 775

Cash Flows from Operating Activities

Cash used in operating activities for the nine months ended September 30, 2015 was $14.0 million. The net loss of $9.6 million was offset by non-cash charges of $1.5 million of interest expense related to accretion of debt discount of redeemable convertible notes and convertible notes to related parties, $0.4 million for depreciation and amortization and $0.1 million for stock-based compensation, offset by $0.1 million for non-cash gain related to change in fair value of warrant liability and $0.7 million for non-cash gain related to change in fair value of the derivative liability. Cash used in operating activities also reflected the change in net operating assets of $5.5 million primarily due to a $4.5 million decrease of accounts payable primarily we assumed in connection with the merger with Targacept, a $0.2 million increase of accounts receivable and $1.6 million decrease of deferred revenue due to the recognition of revenue. This was partially offset by a $1.0 million increase in accrued compensation of other accrued liabilities related to our increased operating activities as a public company.

Cash used in operating activities for the nine months ended September 30, 2014 was $4.3 million. The net loss of $5.3 million was offset by non-cash charges of $0.6 million for depreciation and amortization, $0.2 million for stock-based compensation and $0.1 million for loss on disposal of fixed assets. Cash used in operating activities also reflected the change in net operating assets primarily due to a $0.2 million decrease of accounts payable due to timing of payments and a $0.1 million decrease of deferred rent. This was partially offset by a $0.1 million decrease of prepaid and other current assets and a $0.4 million increase of deferred revenue due to $1.5 million of annual license maintenance payment from Pfizer in August 2014.

Cash Flows from Investing Activities

Cash provided by investing activities for the nine months ended September 30, 2015 of $26.4 million primarily related to $23.9 million of net cash proceeds from the reverse merger and $2.8 million of proceeds from maturities of investments, partially offset by $0.1 million of increase of restricted cash related to facility deposit and $0.2 million of purchase of fixed assets.

Cash provided by investing activities for the nine months ended September 30, 2014 of $98,000 was related to proceeds from the sale of fixed assets.

Cash flows from Financing Activities

Cash provided by financing activities for the nine months ended September 30, 2015 of $9.1 million was related to net cash proceeds from the issuance of convertible preferred stock of $7.3 million, release of restricted cash of $2.2 million related to conversion and redemption of some of the redeemable convertible notes and convertible notes and warrants to related parties of $1.9 million, partially offset by payments of $2.2 million related to redemption of some of the redeemable convertible notes and $0.1 million related to repurchase of common stock in connection with equity awards assumed.

Cash provided by financing activities for the nine months ended September 30, 2014 of $5.0 million was primarily related to net cash proceeds from the issuance of convertible preferred stock.

Contractual Obligations

The following table summarizes our fixed contractual obligations as of December 31, 2014:

	Payments due by period				
	Less than 1 year	1 to 3 years	3 to 5 years	More than 5 years	Total
	(in thousands)				
Contractual Obligations:					
Operating lease obligations[1]	$ 437	$ —	$ —	$ —	$ 437
Total contractual obligations[2][3]	$ 437	$ —	$ —	$ —	$ 437

(1) Represents future minimum lease payments under the non-cancelable lease for our headquarters in South San Francisco, California. The minimum lease payments above do not include any related common area maintenance charges or real estate taxes.

(2) We may be obligated to pay ISU Abxis up to $2.0 million in potential milestone payments. As the achievement and timing of these milestones are not probable and estimable, such commitments have not been included in the contractual obligation we had above.

(3) We had unrecognized tax benefits in the amount of $2.6 million as of December 31, 2014 related to uncertain tax positions. However, there is uncertainty regarding when these liabilities will require settlement so these amounts were not included in the contractual obligations table above.

On February 23, 2015, we entered into a new sub-lease for the portion of the space we have occupied in our headquarters building. The space currently occupied and under the new sub-lease is similar to the space occupied under our lease that expired on February 28, 2015. The initial term of the sub-lease was set to expire on August 31, 2015. On June 8, 2015 we exercised our right to extend the sub-lease term through February 27, 2018. On March 1, 2015, we obtained a letter of credit in the amount of $57,000 fully secured by cash held in our bank account to satisfy that amount of the security deposit. In September 2015, we increased a letter of credit to $125,000 fully secured by cash held in our bank account to satisfy that amount of the security deposit.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

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ITEM 3. Quantitative and Qualitative Disclosures About Market Risk

As of September 30, 2015, we had cash and cash equivalents of $23.1 million, which consisted of bank deposits and money market funds, and marketable securities of $14.5 million. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. However, because of the short-term nature of the instruments in our portfolio, a sudden change in market interest rates would not be expected to have a material impact on the fair market value of its investment portfolios. Accordingly, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest rates on our investment portfolio.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2015. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to our management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of September 30, 2015, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control Over Financial Reporting

There has been no change in Catalyst’s internal control over financial reporting during the quarter ended September 30, 2015, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are not a party to any material legal proceedings.

ITEM 1A. RISK FACTORS

Risks related to our financial condition and capital requirements

We have incurred significant losses since our inception, and are expected to continue to incur significant losses for the foreseeable future.

We are a clinical-stage biotechnology company, and we have not yet generated significant revenues. We have incurred net losses in each year since our inception in August 2002, including net losses of $6.6 million and $10.0 million for the years ended December 31, 2014 and 2013, respectively and $9.6 million for the nine months ended September 30, 2015. As of September 30, 2015, we had an accumulated deficit of $125.9 million.

We are still in the early stages of development of our product candidates, and have no products approved for commercial sale. To date, we have financed our operations primarily from private placements of convertible preferred stock, payments under collaboration agreements, and to a lesser extent through issuances of shares of common stock. In addition, due to Pfizer's termination of its research and license agreement with us, our ability to use payments from collaboration agreements to finance our operations will be significantly reduced and additionally we may enter into agreements with Pfizer in which development milestones and royalties may be due in the future.

We have devoted most of our financial resources to research and development, including our preclinical development activities. We expect to continue to incur significant expenses and operating losses over the next several years. Our operating losses may fluctuate significantly from quarter to quarter and year to year. We are expected to continue to incur significant expenses and increasing operating losses for at least the next several years, and our expenses will increase substantially if and as we:

- continue clinical development of CB 813d/PF-05280602;
- continue research and preclinical and clinical development of our other product candidates, including CB 2679d/ISU 304;
- initiate additional preclinical, clinical or other studies for our product candidates;
- further develop the manufacturing process for our product candidates;
- change or add additional manufacturers or suppliers;
- attract and retain skilled personnel;
- seek regulatory and marketing approvals for any of our product candidates that successfully complete clinical studies;
- establish a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain marketing approval;
- seek to identify and validate additional product candidates;
- acquire or in-licenses other product candidates and technologies;
- make milestone or other payments under collaboration agreements, or any in-license agreements;

- maintain, protect and expand our intellectual property portfolio;
- create additional infrastructure to support operations as a public company and our product development and planned future commercialization efforts; and
- experience any delays or other issues with any of the above.

To become and remain profitable, we must succeed in developing and eventually commercializing products that generate significant revenue. This will require us to be successful in a range of challenging activities, including completing preclinical testing and clinical trials of product candidates, discovering additional product candidates, obtaining regulatory approval for these product candidates and manufacturing, marketing and selling any products for which regulatory approval is obtained. We are only in the preliminary stages of most of these activities. We may never succeed in these activities and, even if we do, we may never generate revenues that are significant enough to achieve profitability.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Failure to become and remain profitable would depress the value of the company and could impair our ability to raise capital, expand our business, maintain research and development efforts, diversify product offerings or even continue operations. A decline in the value of the Company could also cause you to lose all or part of your investment.

We will need additional capital. If we are unable to raise sufficient capital, we will be forced to delay, reduce or eliminate product development programs.

Developing pharmaceutical products, including conducting preclinical studies and clinical trials, is expensive. We expect our research and development expenses to increase in connection with our ongoing activities, particularly activities related to the continued clinical development of CB 813d/PF-05280602, including a clinical efficacy trial and, if Phase 1 clinical trials of CB 2679d/ISU 304 are successful, an efficacy trial for this compound. We will also incur additional expenses if our product candidates for delayed graft function or age-related macular degeneration enter Phase 1 clinical trials. Expenses are also likely to increase as we continue to work on our research programs. We believe that our available cash is sufficient to fund our operations at least through 2016. However, we will need to raise substantial additional capital to complete the development and commercialization of CB 813d/PF-05280602, CB 2679d/ISU 304 and our other product candidates, and depending on the availability of capital, may need to delay development of our product candidates for delayed graft function or age-related macular degeneration.

In August 2015 we issued $37.0 million in aggregate principal amount of redeemable convertible notes to our stockholders as part of the Pre-Closing Dividend, with an amount equal to the total principal deposited in an escrow account for the benefit of our stockholders. The notes may be redeemed for cash or repaid upon maturity, but to the extent holders are electing to convert any principal amount of the notes into shares of common stock at a price of $9.19 per share on or before February 19, 2018. As of September 30, 2015 $2.1 million in aggregate principal has been redeemed and $0.1 million had been converted to common stock. Except for this arrangement, we have no commitments or arrangements for any additional financing to fund our research and development programs. There can be no assurance regarding the amount of the notes that will be redeemed or the portion of the remaining $34.8 million in capital that will become available to us.

Until we can generate a sufficient amount of revenue from our product candidates, if ever, we expect to finance future cash needs through public or private equity offerings, debt financings, corporate collaborations and/or licensing arrangements. Additional funds may not be available when we need them on terms that are acceptable, or at all. If adequate funds are not available, we may be required to delay, reduce the scope of or eliminate one or more of our research or development programs.

Because successful development of our product candidates is uncertain, we are unable to estimate the actual funds required to complete research and development and commercialize our products under development. Our future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the initiation, progress, timing, costs and results of clinical trials for our product candidates in hemophilia, including CB 813d/PF-05280602 and CB 2679d/ISU 304;
- the timing, costs and results of preclinical studies for our other potential product candidates;
- the number and characteristics of product candidates that we pursue;
- the terms and timing of any future collaboration, licensing or other arrangements that we may establish;
- the outcome, timing and cost of regulatory approvals;
- the cost of obtaining, maintaining, defending and enforcing intellectual property rights, including patent rights;
- the effect of competing technological and market developments;
- the cost and timing of completing outsourced manufacturing activities;
- market acceptance of any product candidates for which we may receive regulatory approval;
- the cost of establishing sales, marketing and distribution capabilities for any product candidates for which we may receive regulatory approval; and
- the extent to which we acquire, license or invest in businesses, products or technologies.

Raising additional funds by issuing securities or through licensing arrangements may cause dilution to stockholders, restrict our operations or require us to relinquish proprietary rights.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, stockholders will be diluted, and the terms of these new securities may include liquidation or other preferences that adversely affect the rights of common stockholders. Debt financing, if available at all, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, product candidates or future revenue streams or grant licenses on terms that are not favorable to us. We may also seek to access the public or private capital markets whenever conditions are favorable, even if we do not have an immediate need for additional capital at that time. There can be no assurance that we will be able to obtain additional funding if and when necessary. If we are unable to obtain adequate financing on a timely basis, we could be required to delay, curtail or eliminate one or more, or all, of our development programs or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

We have no history of clinical development or commercialization of pharmaceutical products, which may make it difficult to evaluate the prospects for the company's future viability.

We began operations in August 2002. Our operations to date have been limited to financing and staffing the company, developing our technology and product candidates and establishing collaborations. We have not yet demonstrated an ability to successfully conduct a clinical trial, obtain marketing approvals, manufacture a product for clinical trials or at commercial scale, or arrange for a third-party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, predictions about the company's future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing pharmaceutical products.

Risks related to the discovery, development and commercialization of our product candidates

We are substantially dependent upon the success of CB 813d/PF-05280602, which is our only product candidate that has completed a Phase 1 clinical trial.

The failure of CB 813d/PF-05280602 to achieve successful clinical trial endpoints, delays in clinical trial enrollment or in the clinical development of CB 813d/PF-05280602 generally, unanticipated adverse side effects related to CB 813d/PF-05280602 or any other adverse developments or information related to CB 813d/PF-05280602 would significantly harm our business, its prospects and the value of the company's common stock. We expect to advance CB 813d/PF-05280602 into a clinical efficacy trial in hemophilia A and hemophilia B inhibitor patients. There is no guarantee that the results of this clinical trial, if it occurs, will be positive or will not generate unanticipated safety concerns. The Phase 1 clinical trial of CB 813d/PF-05280602 was a single-dose escalation trial that would not, compared to multi-dose trials, be expected to exclude the possibility of an immunological response to CB 813d/PF-05280602 in patients who received the product candidate. After completion of the dosing portion of the Phase 1 clinical trial, Pfizer observed a positive result in an assay for a treatment-related non-neutralizing anti-drug antibody in a single patient at a time point 60 days post-dosing. Confirmatory testing of this result is planned to investigate further whether this observation was due to a false positive assay result, a pre-existing, non-neutralizing antibody against NovoSeven, or a non-neutralizing, anti-CB 813d/PF-05280602 antibody. Pfizer's completion of the phase 1 clinical study report will be delayed until completion of retesting, and Catalyst's development of CB 813d/PF-05280602 may be delayed as a result of this finding.

Even if the next trials of CB 813d/PF-05280602 are positive, CB 813d/PF-05280602 may require substantial additional trials and other testing before approving CB 813d/PF-05280602 for marketing. If subsequent multi-dose trials demonstrate a treatment-related neutralizing immunological response in patients, development of CB 813d/PF-05280602 could be halted.

Even if the FDA or other regulatory agency approves CB 813d/PF-05280602, the approval may impose significant restrictions on the indicated uses, conditions for use, labeling, advertising, promotion, marketing and/or production of such product and may impose ongoing commitments or requirements for post-approval studies, including additional research and development and clinical trials. The FDA and other agencies also may impose various civil or criminal sanctions for failure to comply with regulatory requirements, including withdrawal of product approval. Regulatory approval from authorities in foreign countries will be needed to market CB 813d/PF-05280602 in those countries. Approval by one regulatory authority does not ensure approval by regulatory authorities in other jurisdictions. If we fail to obtain approvals from foreign jurisdictions, the geographic market for CB 813d/PF-05280602 would be limited.

CB 813d/PF-05280602 is not expected to be commercially available in the near term, if at all. Further, the commercial success of CB 813d/PF-05280602 will depend upon its acceptance by physicians, patients, third-party payors and other key decision-makers as a therapeutic and cost effective alternative to currently available products. If we are unable to successfully develop, obtain regulatory approval for and commercialize CB 813d/PF-05280602, our ability to generate revenue from product sales will be significantly delayed and our business will be materially and adversely affected, and we may not be able to earn sufficient revenues to continue as a going concern.

We must transition manufacturing and clinical activities related to CB 813d/PF-05280602 from Pfizer and fully optimize the manufacturing process. This process will be lengthy and its outcome uncertain.

Pfizer conducted the Phase 1 clinical trial of CB 813d/PF-05280602 pursuant to a research and license agreement. Pfizer terminated this agreement effective June 1, 2015, and to our knowledge such termination was the result of an internal review of products in development at Pfizer. Under this license agreement, we and Pfizer collaborated on the development of CB 813d/PF-05280602, and Pfizer was responsible for product manufacturing and clinical trials. To continue development of CB 813d/PF-05280602, we must successfully transition manufacturing and clinical development activities from Pfizer. We are in discussions with Pfizer to obtain manufacturing technology and know-how related to CB 813d/PF-05280602, although there can be no assurance that we and Pfizer will agree to terms satisfactory to Catalyst; or that the mechanism for manufacturing technology transfer, and know-how transfer will be successful. Even if the transfer of manufacturing technology is successful, we may need to further optimize the manufacturing process of CB 813d/PF-05280602 in order to manufacture clinical supplies for additional clinical trials. If we are unable to agree to terms with Pfizer, successfully transfer manufacturing technology and know-how from Pfizer related to CB 813d/PF-05280602, and/or optimize the manufacturing process, clinical development of this product candidate could be significantly delayed.

The biological basis of our product candidates exposes them to risk of adverse immunological response, which could result in the failure of a product to advance further in clinical trials or, with respect to approved products, result in its removal from the market.

All of our product candidates are modified versions of human proteases. As a result, they have the potential to elicit an immunological response that eliminates or neutralizes the product, severely inhibiting its efficacy. This in turn could result in the failure of any of our product candidates to advance into further clinical trials, or for any approved products to be removed from the market if adverse immunological responses are identified after approval.

We are very early in our development efforts and have only one product candidate that has completed a Phase 1 clinical trial. All of our other product candidates are still in preclinical development. If we are unable to commercialize our product candidates or experience significant delays in doing so, our business will be materially harmed.

We are very early in our development efforts and have only one product candidate that has completed a Phase 1 clinical trial, CB 813d/PF-05280602. All of our other product candidates are still in preclinical development. We expect to advance CB 813d/PF-05280602 into a clinical efficacy trial in hemophilia A and hemophilia B inhibitor patients. In addition, we expect that our collaborator ISU Abxis will initiate a Phase 1 clinical trial of CB 2679d/ISU 304, our next-generation Factor IX drug candidate for the treatment of patients with hemophilia B, in 2016. We have delayed initiating preclinical IND-enabling studies for our anti-C3 protease for the prevention of renal delayed graft function, or DGF, while we review our cost estimates and timelines to develop CB 813d/PF-05280602, our next generation Factor VIIa. As a result our timelines to develop our anti-C3 for DGF will be longer relative to our original plans. Our ability to generate product revenues, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of these and other product candidates. The success of our product candidates will depend on several factors, including the following:

- successful completion of preclinical studies and clinical trials;
- receipt of marketing approvals from applicable regulatory authorities;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for our product candidates;
- making arrangements with third-party manufacturers for, or establishing, commercial manufacturing capabilities;
- launching commercial sales of the products, if and when approved, whether alone or in collaboration with others;
- acceptance of the products, if and when approved, by patients, the medical community and third-party payors;
- effectively competing with other therapies;
- obtaining and maintaining healthcare coverage and adequate reimbursement;
- protecting our rights in our intellectual property portfolio; and
- maintaining a continued acceptable safety profile of the products following approval.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize our product candidates, which would materially harm our business.

Clinical drug development involves a lengthy and expensive process with an uncertain outcome. Results from our successful Phase 1 trials may not be confirmed in later trials, and if serious adverse or unacceptable side effects are identified during the development of our product candidates, we may need to abandon or limit our development of some of our product candidates.

Clinical testing is expensive, time-consuming and uncertain as to outcome. We cannot guarantee that any preclinical studies and clinical trials will be conducted as planned or completed on schedule, if at all. The clinical development of our product candidates is susceptible to the risk of failure at any stage of drug development, including failure to demonstrate efficacy in a clinical trial or across a broad population of patients, the occurrence of severe or medically or commercially unacceptable adverse events, failure to comply with protocols or applicable regulatory requirements and determination by the FDA or any comparable foreign regulatory authority that a drug product is not approvable. It is possible that even if one or more of our product candidates has a beneficial effect, that effect will not be detected during clinical evaluation as a result of one or more of a variety of factors, including the size, duration, design, measurements, conduct or analysis of our clinical trials. Conversely, as a result of the same factors, our clinical trials may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any. Similarly, in our clinical trials we may fail to detect toxicity of or intolerability caused by our product candidates, or mistakenly believe that our product candidates are toxic or not well tolerated when that is not in fact the case.

In addition, the outcome of preclinical studies and early clinical trials may not be predictive of the success of later clinical trials. For example, the Phase 1 clinical trial of CB 813d/PF-05280602 was a single dose trial, and adverse immunological reactions such as the development of a neutralizing anti-drug antibody would not be likely to appear until patients received multiple doses in later trials.

Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in earlier development, and we may face similar setbacks. The design of a clinical trial can determine whether our results will support approval of a product and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. We have limited experience in designing clinical trials and may be unable to design and execute a clinical trial to support marketing approval. In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval for the product candidates. Even if we believe that the results of clinical trials for our product candidates warrant marketing approval, the FDA or comparable foreign regulatory authorities may disagree and may not grant marketing approval of our product candidates.

In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the dosing regimen and other clinical trial protocols and the rate of dropout among clinical trial participants. Any Phase 2, Phase 3 or other clinical trials that we may conduct may not demonstrate the efficacy and safety necessary to obtain regulatory approval to market our product candidates.

If our product candidates are associated with undesirable side effects in clinical trials or have characteristics that are unexpected, we may need to abandon development or limit development of the product candidate to more narrow uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective.

If we experience delays or difficulties in the enrollment of patients in clinical trials, our receipt of necessary regulatory approvals could be delayed or prevented.

We or our collaborators may not be able to initiate or continue clinical trials for our product candidates if we are unable to locate, enroll and maintain enrolment of a sufficient number of eligible patients to participate in these trials as required by the FDA or similar regulatory authorities outside the United States. In particular, there are a relatively small number of hemophilia patients, which may cause delays in enrollment of clinical trials of CB 813d/PF-05280602 in hemophilia A and B patients with inhibitors or CB 2679d/ISU 304 in hemophilia B patients. In addition, some of our competitors have ongoing clinical trials for product candidates that treat the same indications as our product candidates, and patients who would otherwise be eligible for our clinical trials may instead enroll in clinical trials of our competitors' product candidates.

Patient enrollment is affected by other factors including:

- the severity of the disease under investigation;
- the eligibility criteria for the study in question;
- the perceived risks and benefits of the product candidate under study;

- the efforts to facilitate timely enrollment in clinical trials;
- the patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment; and
- the proximity and availability of clinical trial sites for prospective patients.

Our inability to enroll a sufficient number of patients for our clinical trials will result in significant delays and could require us to abandon one or more clinical trials altogether. Enrollment delays in clinical trials conducted by us may also result in increased development costs for our product candidates, which would cause the value of the company to decline and limit our ability to obtain additional financing.

We may not be successful in our efforts to use and expand our protease platform to discover and develop drugs that lead to marketable products.

A key element of our strategy is to use our protease platform to build a hemostasis franchise and an anti-compliment franchise, which include several highly differentiated drug candidates that address diseases with high unmet medical needs, including delayed graft function, or DGF, and dry age-related macular degeneration, or AMD. The discovery of biopharmaceutical products based on the creation of novel proteases is an emerging field, and the scientific discoveries that form the basis for our efforts to discover and develop product candidates using this technology are relatively new. Although modified human protease drugs have been developed, no drugs have been developed premised on novel engineered proteases with new substrate specificities that preferentially cleave the target of interest. Furthermore, no drugs directly targeting complement factor C3 have been approved.

Accordingly, we do not know if our approach of using proteases to regulate coagulation and complement cascades will successfully result in the development of additional product candidates for target indications that are safe and effective and/or commercially differentiated from competitor molecules. Even if we are successful in continuing to build our pipeline, the potential product candidates that we identify may not be suitable for clinical development, including as a result of being shown to have harmful side effects or other characteristics that indicate that they are unlikely to be product candidates that will receive marketing approval and achieve market acceptance. If we do not successfully develop and commercialize product candidates based upon our technological approach, we will not be able to obtain product revenues in future periods, which likely would result in significant harm to our financial position and adversely affect the company’s stock price.

Risks related to our reliance on third parties

We depend on our collaborative relationship with ISU Abxis for the Phase 1 development of CB 2679d/ISU 304.

We have entered into a collaboration agreement with ISU Abxis for preclinical and Phase 1 development of an improved, next-generation Factor IX product, CB 2679d/ISU 304, to enable an investigational new drug application, which will require ISU Abxis to obtain approval from South Korean regulatory authorities to conduct trials. Under this agreement, ISU Abxis is responsible for manufacturing and Phase 1 clinical trials of this product candidate, and we depend on ISU Abxis to complete these activities.

Our ability to generate revenues from this arrangement will depend on the ability of ISU Abxis to successfully perform the functions assigned to it in this arrangement, and accordingly, any failure by ISU Abxis to develop this product candidate could adversely affect our cash flows. Further, this collaboration agreement may not lead to development or commercialization of this product candidate in the most efficient manner or at all, and ISU Abxis has the right to abandon research or development projects and terminate applicable agreements, including funding obligations, prior to or upon the expiration of the agreed upon terms. We are subject to a number of risks associated with our dependence on ISU Abxis:

- We are not able to control any decisions by ISU Abxis regarding the amount and timing of resource expenditures for the development or commercialization of CB 2679d/ISU 304, and may have limited or no ability to control such decisions with respect to other product candidates subject to collaboration agreements;
- ISU Abxis may delay clinical trials, provide insufficient funding, or manufacture insufficient amounts or quality of product, for a clinical trial, stop a clinical trial or abandon products, repeat or conduct new clinical trials or require a new formulation of products for clinical testing;
- ISU Abxis may not perform its obligations as expected;
- Adverse regulatory determinations or other legal action may interfere with the ability of ISU Abxis to conduct clinical trials or other development activity, such as any failure by ISU Abxis to obtain approvals from South Korean regulatory authorities to conduct Phase I clinical trials of CB 2679d/ISU 304;
- ISU Abxis may be subject to regulatory or legal action resulting from the failure to meet healthcare industry compliance requirements in the conduct of clinical trials or the promotion and sale of products;
- Our relationship with ISU Abxis could be adversely impacted by changes in their key management personnel and other personnel that are administering collaboration agreements; and
- The collaboration with ISU Abxis may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of CB 2679d/ISU 304.

We expect to seek to establish additional collaborations, and, if we are not able to establish them on commercially reasonable terms, we may have to alter our development and commercialization plans.

Our drug development programs and the potential commercialization of our product candidates will require substantial additional cash to fund expenses. Accordingly, we may seek one or more additional collaborators for the development and commercialization of one or more of our product candidates. For example, we may seek a new collaborator to develop CB 813d/PF-05280602 and might also seek collaborators for CB 2689d/ISU 304 or our Factor Xa pre-clinical program. In addition, full development efforts on the use of our novel proteases for the treatment of DGF or dry AMD will likely involve significant cost, and we expect that we may conduct any such efforts in collaboration with one or more partners.

We face significant competition in seeking appropriate collaborators. Whether we can reach a definitive agreement with a collaborator will depend, among other things, upon our assessment of the collaborator’s resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator’s evaluation of a number of factors. Those factors may include the design or results of preclinical trials, the likelihood of approval by the FDA or comparable foreign regulatory authorities and the regulatory pathway for any such approval, the potential market for the product candidate, the costs and complexities of manufacturing and delivering the product to patients and the potential of competing products. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available for collaboration and whether such a collaboration could be more attractive than the one with us. There can also be no assurance that any collaboration agreements will be on favorable terms.

Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators. We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay our development program or one or more of our other development programs, delay our potential commercialization or reduce the scope of any sales or marketing activities, and increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop our product candidates or bring them to market and generate product revenue.

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

We currently have no internal capabilities to manufacture our product candidates for clinical use or for preclinical trials following good manufacturing practices, or GMP, or good laboratory practices, or GLP. We expect to rely on one or more third-party contractors to manufacture, package, label and distribute clinical supplies and commercial quantities of any product candidate that we commercialize following approval for marketing by applicable regulatory authorities. We also expect to rely on one or more third-party contractors to manufacture our product candidates for use in our clinical trials. Reliance on such third-party contractors entails risks, including:

- our inability to identify and negotiate manufacturing and supply agreements with suitable manufacturers;
- manufacturing delays if our third-party contractors give greater priority to the supply of other products over our product candidates or otherwise do not satisfactorily perform according to the terms of the agreements between us and them;
- the possible termination or nonrenewal of agreements by our third-party contractors at a time that is costly or inconvenient for us;
- the possible breach by the third-party contractors of our agreements with them;
- the failure of third-party contractors to comply with applicable regulatory requirements;
- the possible mislabeling of clinical supplies, potentially resulting in the wrong dose amounts being supplied or active drug or placebo not being properly identified;
- the possibility of clinical supplies not being delivered to clinical sites on time, leading to clinical trial interruptions, or of drug supplies not being distributed to commercial vendors in a timely manner, resulting in lost sales; and
- the possible misappropriation of our proprietary information, including our trade secrets and know-how.

We may incur delays in product development resulting from the need to identify or qualify manufacturers for our product candidates. Our current and anticipated future dependence upon others for the manufacture of our product candidates may adversely affect our future profit margins and our ability to commercialize any products that receive marketing approval on a timely and competitive basis.

We and our contract manufacturers will be subject to significant regulation with respect to manufacturing our products. The manufacturing facilities on which we will rely may not continue to meet regulatory requirements and have limited capacity.

All entities involved in the preparation of therapeutics for clinical studies or commercial sale, including any contract manufacturers for our product candidates, are subject to extensive regulation. Components of a finished therapeutic product approved for commercial sale or used in late-stage clinical studies must be manufactured in accordance with GMP. These regulations govern manufacturing processes and procedures (including record keeping) and the implementation and operation of quality systems to control and assure the quality of investigational products and products approved for sale. Poor control of production processes can lead to the introduction of adventitious agents or other contaminants, or to inadvertent changes in the properties or stability of our product candidates that may not be detectable in final product testing. We or our contract manufacturers must supply all necessary documentation in support of a Biologics License Application on a timely basis and must adhere to the FDA's good laboratory practices, or GLP, and GMP regulations enforced by the FDA through its facilities inspection program. Our facilities and quality systems and the facilities and quality systems of some or all of our third-party contractors must pass a pre-approval inspection for compliance with the applicable regulations as a condition of regulatory approval of our product candidates. In addition, the regulatory authorities may, at any time, audit or inspect a manufacturing facility involved with the preparation of our product candidates or the associated quality systems for compliance with the regulations applicable to the activities being conducted. If these facilities do not pass a pre-approval plant inspection, FDA approval of the products will not be granted.

The regulatory authorities also may, at any time following approval of a product for sale, audit our manufacturing facilities or those of our third-party contractors. If any such inspection or audit identifies a failure to comply with applicable regulations or if a violation of our product specifications or applicable regulations occurs independent of such an inspection or audit, we or the relevant regulatory authority may require remedial measures that may be costly and/or time-consuming for us or a third-party to implement and that may include the temporary or permanent suspension of a clinical study or commercial sales or the temporary or permanent closure of a facility. Any such remedial measures imposed upon us or third parties with whom we contract could materially harm our business.

If we or any of our third-party manufacturers fail to maintain regulatory compliance, the FDA can impose regulatory sanctions including, among other things, refusal to approve a pending application for a new drug product or biologic product, or revocation of a pre-existing approval. As a result, our business, financial condition and results of operations may be materially harmed.

Additionally, if supply from one approved manufacturer is interrupted, there could be a significant disruption in commercial supply. An alternative manufacturer would need to be qualified through a Biologics License Application supplement which could result in further delay. The regulatory agencies may also require additional studies if a new manufacturer is relied upon for commercial production. Switching manufacturers may involve substantial costs and is likely to result in a delay in our desired clinical and commercial timelines.

These factors could cause the delay of clinical studies, regulatory submissions, required approvals or commercialization of our product candidates, cause us to incur higher costs and prevent us from commercializing our products successfully. Furthermore, if our suppliers fail to meet contractual requirements, and we are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our clinical studies may be delayed or we could lose potential revenue.

We expect to rely on third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials.

We expect to rely on third parties such as contract research organizations, or CROs, medical institutions and clinical investigators to enroll qualified patients and conduct, supervise and monitor clinical trials. Our reliance on these third parties for clinical development activities will reduce our control over these activities. Our reliance on these third parties, however, will not relieve us of our regulatory responsibilities, including ensuring that our clinical studies are conducted in accordance with good clinical practices, or GCP, and the investigational plan and protocols contained in the relevant regulatory application, such as an investigational new drug application, or IND. In addition, the CROs with whom we contract may not complete activities on schedule, or may not conduct our preclinical studies or clinical studies in accordance with regulatory requirements or our clinical study design. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, our efforts to obtain regulatory approvals for, and to commercialize, our product candidates may be delayed or prevented.

Risks related to employee matters, managing growth and our business operations

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

Our ability to compete in the highly competitive biotechnology and pharmaceutical industries depends upon our ability to attract and retain highly qualified managerial, scientific and medical personnel. We are highly dependent on our management and scientific personnel, including our President and Chief Executive Officer, Dr. Usman, our Chief Scientific Officer, Dr. Madison, and our Chief Financial Officer, Fletcher Payne. We do not maintain “key man” insurance policies on the lives of these individuals or the lives of any of our other employees. In addition, we will need to add personnel to our clinical development program in order to achieve our business objectives, including a Chief Medical Officer. The loss of the services of any of our executive officers, other key employees, and our inability to find suitable replacements, or our inability to hire new clinical development and manufacturing personnel, could result in delays in product development and harm our business.

We conduct operations at our facility in the San Francisco Bay Area. This region is headquarters to many other biopharmaceutical companies and many academic and research institutions. Competition for skilled personnel in our market is intense and may limit our ability to hire and retain highly qualified personnel on acceptable terms or at all.

To induce valuable employees to remain at Catalyst, in addition to salary and cash incentives, we have provided stock options that vest over time. The value to employees of stock options that vest over time may be significantly affected by movements in the company’s stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. Despite our efforts to retain valuable employees, members of management and scientific and development teams may terminate their employment with the company on short notice. Our employees are under at-will employment arrangements, which means that any of our employees can leave employment with Catalyst at any time, with or without notice. Failure to retain, replace or recruit personnel could harm our business.

We expect to expand our development and regulatory capabilities and as a result, may encounter difficulties in managing our growth, which could disrupt our operations.

We expect to experience significant growth in the number of employees and the scope of our operations, particularly in the areas of clinical development and, if any of our product candidates receive marketing approval, sales, marketing and distribution. 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. We may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The expansion of our operations may lead to significant costs and may divert management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

Our employees, principal investigators, consultants and commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of fraud or other misconduct by our employees, principal investigators, consultants and collaborators. Misconduct by these parties could include intentional failures to comply with the regulations of the FDA and non-U.S. regulators, provide accurate information to the FDA and non-U.S. regulators, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Such misconduct could also involve the improper use of information obtained in the course of clinical studies that, could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

We will continue to incur significant increased costs as a result of operating as a public company, and our new management is required to devote substantial time to compliance initiatives, particularly after the completion of a one-year transition period to full compliance.

In connection with the completion of the Merger between Targacept and Catalyst, the employment of the teams that historically operated the business of Targacept and its financial reporting was terminated, and substantially all of our current employees, including our finance staff, were the employees of old Catalyst or are new hires. Accordingly, we have never operated our current business as a public company. As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company, including costs associated with public company reporting and corporate governance requirements, in order to comply with the rules and regulations imposed by the Sarbanes-Oxley Act and the Dodd-Frank Wall Street Reform and Consumer Protection, or the Dodd-Frank Act, as well as rules implemented by the SEC and Nasdaq. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact the manner in which we operates our business in ways that are not currently anticipated. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives, and it is likely that we will need to hire additional staff in the areas of investor relations, legal and accounting to operate as a public company. In addition, these rules and regulations make it difficult and expensive for us to obtain director and officer liability insurance, and we may be required to incur substantial costs to maintain our current levels of such coverage. We expect that we will annually incur significant additional expenses to comply with the requirements imposed on us as a public company.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective internal controls over financial reporting and disclosure controls and procedures. In particular, as a public company, we are required to perform system and process evaluations and testing of our internal control over financial reporting to allow management and our independent registered public accounting firm to report on the effectiveness of our internal controls over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. We do not, however, intend to comply with the internal control over financial reporting requirements of Section 404, that require our independent registered public accounting firm to attest to the effectiveness of our internal control over financial reporting, for a one-year transition period, commencing such compliance with our Annual Report on Form 10-K for the fiscal year ended December 31, 2016. In addition, our testing, or the subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal control over financial reporting that are deemed to be material weaknesses. Our compliance with Section 404 will require that we incur substantial accounting expense and management time on compliance-related issues. Moreover, if we are not able to comply with the requirements of Section 404 in a timely manner, or if we or our independent registered public accounting firm identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, we could lose investor confidence in the accuracy and completeness of our financial reports, which could cause our stock price to decline.

We or the third parties upon whom we depend may be adversely affected by earthquakes or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Earthquakes or other natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as the manufacturing facilities of our third-party contract manufacturers, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and are unlikely to prove adequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans that, particularly when taken together with our lack of earthquake insurance, could have a material adverse effect on our business.

Risks related to our intellectual property

If we are unable to obtain, protect or enforce intellectual property rights related to our product candidates, we may not be able to compete effectively in our markets.

We rely upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our product candidates. The strength of patents in the biotechnology and pharmaceutical field involves complex legal and scientific questions and can be uncertain. Third parties may challenge the validity, enforceability or scope of our patents that, may result in those patents being narrowed or invalidated. The patent applications that we own may fail to result in issued patents with claims that cover our product candidates in the United States or in other foreign countries. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property, provide exclusivity for our product candidates or prevent others from designing around our claims. Certain of our patents also cover processes, for which enforcement can be difficult. Any of these outcomes could impair our ability to prevent competition from third parties that, may have an adverse impact on our business.

If the patents or patent applications we hold or have in-licensed for our programs or product candidates are invalidated or fail to issue, if their breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for our product candidates, it could threaten our ability to commercialize future products. Further, if we encounter delays in regulatory approvals, the period of time during which we could market a product candidate under patent protection could be reduced. In addition, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after it is filed. Various extensions may be available; however the life of a patent, and the protection it affords, is limited. Once the patent life has expired for a product, we may be open to competition from generic medications.

In addition to the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable or that we elect not to patent and other elements of our product candidate discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. However, trade secrets can be difficult to protect. We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements with our employees, consultants, scientific advisors and contractors. We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in these individuals, organizations and systems, agreements or security measures may be breached, and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors.

Although we expect all of our employees and consultants to assign their inventions to us, and all of our employees, consultants, advisors and any third parties who have access to our proprietary know-how, information or technology to enter into confidentiality agreements, we cannot provide any assurances that all such agreements have been duly executed or that our trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Misappropriation or unauthorized disclosure of our trade secrets could impair our competitive position and may have a material adverse effect on our business. Additionally, if the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating the trade secret. In addition, others may independently discover our trade secrets and proprietary information.

Further, filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent material disclosure of the non-patented intellectual property related to our technologies to third parties, and there is no guarantee that we will have any such enforceable trade secret protection, we may not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, results of operations and financial condition.

Third-party claims of intellectual property infringement or challenging the inventorship or ownership of our patents may prevent or delay our development and commercialization efforts.

Our commercial success depends in part on avoiding infringement of the patents and proprietary rights of third parties. There is a substantial amount of litigation, both within and outside the United States, involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries, including patent infringement lawsuits, interferences, oppositions and *inter parties* reexamination proceedings before the U.S. Patent and Trademark Office, or U.S. PTO, and corresponding foreign patent offices. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are pursuing development candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may be subject to claims of infringement of the patent rights of third parties.

Third parties may assert that the manufacture, use or sale of our product candidates infringes patents held by such third parties, or that we are employing their proprietary technology without authorization. For example, we are aware of a patent that has been issued in Europe (with counterparts in Australia, China, Japan, Poland, and Korea) and includes a claim that may read on CB 813d/PF-05280602. An opposition proceeding with respect to this patent is in process, and there can be no assurance of the outcome of such proceeding. There can also be no assurance whether or not the claims of such patent would be found to read on CB 813d/PF-05280602 even if a claim survives the opposition. There may be third-party patents or patent applications with claims to compositions of matter, materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our product candidates may infringe.

In addition, we have received confidential and proprietary information from third parties, and we employ individuals who were previously employed at other biotechnology or pharmaceutical companies. We may be subject to claims that our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of these third parties or our employees' former employers. Litigation may be necessary to defend against these claims.

Parties making claims against us may obtain injunctive or other equitable relief that, could effectively block our ability to further develop and commercialize one or more of our product candidates unless we redesigned infringing products (which may be impossible) or obtained a license under the applicable patents (which may not be available on commercially reasonable terms or at all), or until such patents expire.

We may be involved in lawsuits to protect or enforce our patents.

Competitors may infringe our patents. To counter infringement or unauthorized use, we or our collaborators may be required to file infringement claims that, can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that one of our patents is not valid, is unenforceable and/or is not infringed, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Interference proceedings provoked by third parties or brought by us may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. We may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock.

Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims, regardless of their merit, would cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, in addition to paying royalties, redesign infringing products or obtain one or more licenses from third parties that, may be impossible or require substantial time and monetary expenditure. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could compromise our ability to compete in the marketplace.

We may need to license certain intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms.

A third-party may hold intellectual property, including patent rights that are important or necessary to the development of our products. It may be necessary for us to use the patented or proprietary technology of third parties to commercialize our products, in which case we would be required to obtain a license from these third parties on commercially reasonable terms, or our business could be harmed, possibly materially.

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, and changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to U.S. patent law, including provisions that affect the way patent applications will be prosecuted and may also affect patent litigation. The U.S. PTO is currently developing regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first to file provisions, were enacted March 16, 2013. However, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. Further, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

Risks related to regulatory approval of our product candidates and other legal compliance matters

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

While we have multiple drug candidates in clinical and advanced preclinical development for a range of diseases, we have not yet submitted biologics license applications, or BLAs, for our engineered human proteases to the FDA, or similar approval filings to comparable foreign authorities. Submission of a BLA requires extensive preclinical and clinical data and supporting information that demonstrates the product candidate’s safety, purity, and potency, also known as safety and effectiveness, for each desired indication. A BLA must also include significant information regarding the chemistry, manufacturing and controls for the product. One of our product candidates, CB 813d/PF-05280602, has completed a Phase 1 clinical trial. However, failure of one or more clinical trials can occur at any stage in the clinical trial process. Accordingly, the regulatory pathway for our product candidates is still uncertain, complex, and lengthy, and ultimately approval may not be obtained.

We may experience delays in completing planned clinical trials for a variety of reasons, including delays related to:

- the availability of financial resources to commence and complete the planned trials;
- inability to reach agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- obtaining approval at each clinical trial site by an independent institutional review board, or IRB;
- recruiting suitable patients to participate in trials;
- having patients complete a trial or return for post-treatment follow-up;
- clinical trial sites deviating from trial protocol or dropping out of a trial;
- adding new clinical trial sites; and
- manufacturing sufficient quantities of qualified materials under cGMPs and applying them on a subject by subject basis for use in clinical trials.

We could also experience delays in obtaining approval if physicians encounter unresolved ethical issues associated with enrolling patients in clinical trials of our product candidates in lieu of prescribing existing treatments that have established safety and efficacy profiles given the serious nature of the diseases for the core indications for our product candidates. Additionally, a clinical trial may be suspended or terminated by us, the IRBs for the institutions in which the trials are being conducted, the Data Monitoring Committee for the trial, or by the FDA or other regulatory authorities for a number of reasons, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues, or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we experience termination of, or delays in the completion of, any clinical trial of our product candidates, our ability to commercialize our product candidates will be harmed and our ability to generate revenue will be materially impaired. Additionally, delays in completing trials will increase costs, slow down our product development and approval process, and impair our ability to commence product sales and generate revenue. Many of the factors that could create or lead to a delay in the commencement or completion of clinical trials may ultimately lead to the denial of regulatory approval for our product candidates.

The FDA may disagree with our regulatory plan and we may fail to obtain regulatory approval of our product candidates.

The results of clinical trials we conduct may not support regulatory approval of our product candidates. Our product candidates could ultimately fail to receive regulatory approval for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- We may be unable to demonstrate to the satisfaction of the FDA or comparable foreign authorities that our product candidates are safe and effective for any of their proposed indications;

- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- We may be unable to demonstrate that our product candidates' clinical and other benefits outweigh their safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the data collected from clinical trials of our product candidates may not be sufficient to the satisfaction of the FDA or comparable foreign regulatory authorities to support the submission of a BLA or other comparable submission in foreign jurisdictions or to obtain regulatory approval in the United States or elsewhere;
- the FDA or comparable foreign regulatory authorities may fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

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

Healthcare providers, physicians and third-party payors will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we would market, sell and distribute our products. As a pharmaceutical company, even though we do not and may not control referrals of healthcare services or bill directly to Medicare, Medicaid or other third-party payors, federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights are and will be applicable to our business. These regulations include:

- the Federal Healthcare Anti-Kickback Statute that, 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, or in return for, either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under a federal healthcare program such as Medicare and Medicaid, and which will constrain our marketing practices and the marketing practices of our licensees, educational programs, pricing policies, and relationships with healthcare providers or other entities;
- the federal physician self-referral prohibition, commonly known as the Stark Law, which prohibits physicians from referring Medicare or Medicaid patients to providers of "designated health services" with whom the physician or a member of the physician's immediate family has an ownership interest or compensation arrangement, unless a statutory or regulatory exception applies;

- federal false claims laws that prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other government reimbursement programs that are false or fraudulent, and which may expose entities that provide coding and billing advice to customers to potential criminal and civil penalties, including through civil whistleblower or qui tam actions, and including as a result of claims presented in violation of the Federal Healthcare Anti-Kickback Statute, the Stark Law or other healthcare-related laws, including laws enforced by the FDA;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also created federal criminal laws that prohibit knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statements in connection with the delivery of or payment for healthcare benefits, items or services that, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- federal physician sunshine requirements under the Affordable Care Act, which requires manufacturers of drugs, devices, biologics and medical supplies to report annually to HHS information related to payments and other transfers of value to physicians, other healthcare providers, and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members and applicable group purchasing organizations;
- the Federal Food, Drug, and Cosmetic Act, which, among other things, strictly regulates drug product marketing, prohibits manufacturers from marketing drug products for off-label use and regulates the distribution of drug samples; and
- state and foreign law equivalents of each of the above federal laws, such as anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, state laws requiring pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government and which may require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures, and state and foreign laws governing the privacy and security of health information in specified circumstances, many of which differ from each other in significant ways and often are not preempted by federal laws such as HIPAA, thus complicating compliance efforts.

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, imprisonment, exclusion from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations. If any physicians or other healthcare providers or entities with whom we expect to do business are found to not be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

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

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for physician-administered drugs. In addition, this legislation provided authority for limiting the number of drugs that will be covered in any therapeutic class. Cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for any approved products. While the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the MMA may result in a similar reduction in payments from private payors.

More recently, in March 2010, President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively the PPACA, a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms.

Among the provisions of the PPACA of importance to our potential product candidates are the following:

- an annual, nondeductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program;
- expansion of healthcare fraud and abuse laws, including the False Claims Act and the Anti-Kickback Statute, new government investigative powers, and enhanced penalties for noncompliance;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices;
- extension of manufacturers' Medicaid rebate liability;
- expansion of eligibility criteria for Medicaid programs;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- new requirements to report financial arrangements with physicians and teaching hospitals;
- a new requirement to annually report drug samples that manufacturers and distributors provide to physicians; and
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

In addition, other legislative changes have been proposed and adopted since the PPACA was enacted. These changes included aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, starting in 2013. In January 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several providers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding.

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

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

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could harm our business.

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

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

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

We face potential product liability, and, if successful claims are brought against us, we may incur substantial liability and costs. If the use of our product candidates harms patients, or is perceived to harm patients even when such harm is unrelated to our product candidates, regulatory approvals could be revoked or otherwise negatively impacted and we could be subject to costly and damaging product liability claims.

The use of our product candidates in clinical trials and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by consumers, healthcare providers, pharmaceutical companies or others selling or otherwise coming into contact with our products. There is a risk that our product candidates may induce adverse events. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation;
- withdrawal of clinical trial participants;
- costs due to related litigation;
- distraction of management’s attention from our primary business;
- substantial monetary awards to patients or other claimants;
- the inability to commercialize our product candidates; and
- decreased demand for our product candidates, if approved for commercial sale.

We carry product liability insurance of $5,000,000 per occurrence and $5,000,000 aggregate limit. We believe our product liability insurance coverage is sufficient in light of our current clinical programs; however, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. If and when we obtain marketing approval for product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. On occasion, large judgments have been awarded in class action lawsuits based on drugs or medical treatments that had unanticipated adverse effects. A successful product liability claim or series of claims brought against us could cause our stock price to decline and, if judgments exceed insurance coverage, could adversely affect our results of operations and business.

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

Risks related to commercialization of our product candidates

Even if any of our product candidates receives marketing approval, we may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success.

If any of our product candidates receives marketing approval, we may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. For example, current hemophilia treatments like NovoSeven are well established in the medical community, and doctors may continue to rely on these treatments. If our product candidates do not achieve an adequate level of acceptance, we may not generate significant product revenues and we may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and potential advantages compared with alternative treatments;
- our ability to offer our products for sale at competitive prices;
- the convenience and ease of administration compared with alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- the availability of third-party coverage and adequate reimbursement;
- the prevalence and severity of any side effects; and
- any restrictions on the use of our products together with other medications.

If we are unable to establish sales, marketing and distribution capabilities, we may not be successful in commercializing our product candidates if and when they are approved.

We have not yet established a sales, marketing or product distribution infrastructure for our other product candidates, which are still in preclinical or early clinical development. Except for ISU Abxis' potential rights to commercialize CB 2679d/ISU 304 in South Korea, we generally expect to retain commercial rights for the company's hemophilia product candidates. We believe that it will be possible to access the United States hemophilia market through a focused, specialized sales force. However, we have not yet developed a commercial strategy for hemophilia products outside of the United States, or for any other of our product candidates. To achieve commercial success for any product for which we obtain marketing approval, we will need to establish a sales and marketing organization within the United States, and develop a strategy for sales outside of the United States.

There are risks involved with establishing internal sales, marketing and distribution capabilities. For example, recruiting and training a sales force is expensive and time consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel. If we are unable to establish our sales, marketing and distribution capabilities and enter into additional arrangements with third parties to perform these services, our product revenues and profitability, if any, are likely to be lower than if we were to market, sell and distribute any products that we develop ourselves.

We face substantial competition that, may result in others discovering, developing or commercializing products before or more successfully than we do.

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition, and a strong emphasis on proprietary products. We face potential competition from many different sources, including major pharmaceutical, specialty pharmaceutical and biotechnology companies, academic institutions and governmental agencies, and public and private research institutions. Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future.

Specifically, there are a large number of companies developing or marketing treatments for hemophilia, including many major pharmaceutical and biotechnology companies, including Novo Nordisk, which has developed NovoSeven, a human recombinant coagulation Factor VIIa indicated for treatment of bleeding episodes that has been approved for use in treatment of hemophilia A or B patients with inhibitors to Factor VIII or Factor IX and in patients with Factor VII deficiency and Glanzmann’s thrombasthenia, Baxter, which has developed BAX817, a biosimilar of NovoSeven that recently completed a Phase 3 clinical trial, Roche, which is developing a biospecific Factor VIII-Factor IX monoclonal antibody, and Alnylam, which is developing an investigational RNAi therapeutic targeting antithrombin for the treatment of hemophilia.

Our commercial opportunity in different indications could be reduced or eliminated if competitors develop and market products that are more convenient to use, more effective, less expensive, and safer to use than our products. Furthermore, if competitors gain FDA approval faster than we do, we may be unable to establish a strong market presence or to gain market share. The key competitive factors affecting the success of all of our product candidates, if approved, are likely to be their efficacy, safety, convenience, price, the level of generic competition, and the availability of reimbursement from government and other third-party payors.

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

Even if we are able to commercialize any product candidates, the products may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives that, would harm our business.

The regulations that govern marketing approvals, pricing, coverage and reimbursement for new drug products vary widely from country to country. Current and future legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we may obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain marketing approval.

Our ability to commercialize any product candidates successfully also will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Coverage and reimbursement may not be available for any product that we or our collaborators commercialize and, even if these are available, the level of reimbursement may not be satisfactory. Reimbursement may affect the demand for, or the price of, any product candidate that receives marketing approval. Obtaining and maintaining adequate reimbursement for our products may be difficult. We may be required to conduct expensive pharmacoeconomic studies to justify coverage and reimbursement or the level of reimbursement relative to other therapies. If coverage and adequate reimbursement are not available or reimbursement is available only to limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval.

There may be significant delays in obtaining reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which the drug is approved by the FDA or similar regulatory authorities outside the United States. Moreover, eligibility for reimbursement does not imply that a drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for any approved products that we develop could have a material adverse effect on our operating results, ability to raise capital needed to commercialize products and overall financial condition.

The insurance coverage and reimbursement status of newly-approved products is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for new or current products could limit our ability to market those products and decrease our ability to generate revenue.

The availability and extent of reimbursement by governmental and private payors is essential for most patients to be able to afford expensive treatments. Sales of our product candidates will depend substantially, both domestically and abroad, on the extent to which the costs of our product candidates will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government health administration authorities, private health coverage insurers and other third-party payors. If reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us to establish or maintain pricing sufficient to realize a sufficient return on our investment.

There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products. Moreover, increasing efforts by governmental and third-party payors, in the United States and abroad, to cap or reduce healthcare costs may cause such organizations to limit both coverage and level of reimbursement for new products approved and, as a result, they may not cover or provide adequate payment for our product candidates. We expect to experience pricing pressures in connection with the sale of any of our product candidates, due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general has become very intense. As a result, increasingly high barriers are being erected to the entry of new products.

If the market opportunities for our product candidates are smaller than expected, our revenues may be adversely affected and our business may suffer.

We focus our research and product development on hemostasis and inflammation treatment. Our projections of both the number of people who suffer from related conditions, as well as the subset of people with these conditions who have the potential to benefit from treatment with our product candidates, are based on estimates. These estimates may prove to be incorrect and new studies may change the estimated incidence or prevalence of these diseases. The number of patients in the United States, Europe and elsewhere may turn out to be lower than expected, may not be otherwise amenable to treatment with our products, or new patients may become increasingly difficult to identify or gain access to, all of which would adversely affect our results of operations and our business.

Risks Related to an Investment in Our Common Stock

Our capital stock ownership is concentrated with our executive officers and directors, and their respective affiliates, which limits your ability to influence corporate matters.

Our significant stockholders, acting together, have the ability to affect matters submitted to our stockholders for approval, including the approval of significant transactions. This concentration of ownership may have the effect of delaying, deferring or preventing a strategic transaction, even if such a transaction would benefit other stockholders. As a result, the market price of our common stock could be adversely affected.

The market price of our common stock has historically been highly volatile.

The trading price of our common stock has historically been highly volatile. Additionally, the stock market in general has experienced extreme price and volume fluctuations. The market prices of securities of pharmaceutical, biopharmaceutical and biotechnology companies in particular have been extremely volatile and have experienced fluctuations that have often been unrelated or disproportionate to operating performance. Factors giving rise to this volatility may include:

- regulatory developments in both the United States and abroad;
- developments concerning proprietary rights, including patents and litigation matters;
- disclosure of new collaborations or other strategic transactions;
- public concern about the safety or efficacy of product candidates or technology, their components, or related technology or new technologies generally;
- public announcements by competitors or others regarding new products or new product candidates; and
- general market conditions and comments by securities analysts and investors.

Fluctuations in operating results could adversely affect the price of our common stock.

Our operating results are likely to fluctuate significantly from quarter to quarter and year to year. These fluctuations could cause our stock price to decline. Some of the factors that may cause operating results to fluctuate on a period-to-period basis include the scope, progress, duration results and costs of preclinical and clinical development programs, as well as non-clinical studies and assessments of product candidates and programs, restructuring costs, implementation or termination of collaboration, licensing, manufacturing or other material agreements with third parties, non-recurring revenue or expenses under any such agreement, the cost, timing and outcomes of regulatory compliance, approvals or other regulatory actions and general and industry-specific economic conditions, particularly as affects the pharmaceutical, biopharmaceutical or biotechnology industries in the United States. Period-to-period comparisons of our historical and future financial results may not be meaningful, and investors should not rely on them as an indication of future performance. Fluctuating losses may fail to meet the expectations of securities analysts or investors. Failure to meet these expectations may cause the price of our common stock to decline.

If our stockholders sell a substantial number of shares of our common stock in the public market, our stock price may decline.

Our current trading volumes are modest, and sales of a substantial number of shares of our common stock in the public market, or the perception that these sales could occur, could cause the market price to decline. Such sales also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. Certain of our security holders have entered into lock-up agreements, pursuant to which the security holders have agreed not to, except in limited circumstances, sell, assign, transfer, tender, or otherwise dispose of, shares of our common stock, including, as applicable, shares issuable upon exercise of certain warrants and options, from the effective date of the merger until 120 days after the closing date of the merger. These stockholders beneficially hold in the aggregate approximately 4.2 million outstanding shares of our common stock on an as-converted basis. All of the shares of our common stock issuable to such holders may be sold in the public market 120 days after the effective time of the merger, limited only to the extent provided under applicable federal securities laws. Further, as part of the Pre-Closing Dividend, we issued $37.0 million in aggregate principal amount of redeemable convertible notes. At the option of the note holders, those notes will be redeemable at any time on or before February 19, 2018 or convertible into shares of Catalyst at a

conversion rate of $9.19 per share. As of September 30, 2015 the balance of these redeemable convertible note was $34.8 million. Conversion of these notes into stock of Catalyst will cause dilution to other holders of our common stock and all such stock may be sold in the public market after conversion, which may lead to a decline in the market price of our common stock. In addition, we may, in the future, issue additional shares of our common stock as compensation to our employees, directors or consultants, in connection with strategic alliances, collaborations, acquisitions or other transactions or to raise capital. Accordingly, sales of a substantial number of shares of our common stock in the public market could occur at any time.

Anti-takeover provisions in our charter documents and provisions of Delaware law may make an acquisition more difficult and could result in the entrenchment of management.

We are incorporated in Delaware. Anti-takeover provisions of Delaware law and our charter documents may make a change in control or efforts to remove management more difficult. Also, under Delaware law, our board of directors may adopt additional anti-takeover measures. The existence of the following provisions of Delaware law and our restated certificate of incorporation and amended and restated bylaws could limit the price that investors might be willing to pay in the future for shares of our common stock.

Our restated certificate of incorporation authorizes our board of directors to issue up to 5,000,000 shares of preferred stock and to determine the terms of those shares of stock without any further action by our stockholders. If the board of directors exercises this power to issue preferred stock, it could be more difficult for a third-party to acquire a majority of our outstanding voting stock and vote the stock they acquire to remove management or directors.

Our restated certificate also provides staggered terms for the members of our board of directors, and that directors may be removed by stockholders only by vote of the holders of 66 2/3% of voting shares then outstanding. In addition, our amended and restated bylaws do not permit stockholders to call special or annual meetings of stockholders, or to act by written consent without a meeting. These provisions may prevent stockholders from replacing the entire board in a single proxy contest, making it more difficult for a third-party to acquire control without the consent of our board of directors. These provisions could also delay the removal of management by the board of directors with or without cause.

As a Delaware corporation, we are also subject to certain Delaware anti-takeover provisions. Under Delaware law, a publicly-held corporation may not engage in a business combination with any holder of 15% or more of our voting stock unless the holder has held the stock for three years or, among other things, the board of directors has approved the transaction. Our board of directors could rely on Delaware law to prevent or delay an acquisition.

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

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

See Index to Exhibits at the end of this Report, which is incorporated by reference here. The Exhibits listed in the accompanying Index to Exhibits are filed as part of this report.

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SIGNATURES

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

CATALYST BIOSCIENCES, INC.

Date: November 5, 2015

/s/ Nassim Usman, Ph.D.
Nassim Usman, Ph.D.
President and Chief Executive Officer
(*Principal Executive Officer*)

Date: November 5, 2015

/s/ Fletcher Payne
Fletcher Payne
Chief Financial Officer
(*Principal Financial and Accounting Officer*)

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EXHIBIT INDEX

Exhibit Number	Description
3.1	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, as filed with the SEC on August 20, 2015)
10.1*	Catalyst Biosciences, Inc. 2015 Stock Incentive Plan (As Amended and Restated Effective October 14, 2015)
31.1	Certification of the Principal Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of the Principal Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of the Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of the Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following materials from the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015, formatted in XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheets as of September 30, 2015 and December 31, 2014 (unaudited); (ii) the Consolidated Statements of Comprehensive Income for the three and nine months ended September 30, 2015 and 2014 (unaudited); (iii) the Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit as of September 30, 2015 (unaudited); (iv) th Consolidated Statements of Cash Flows for the nine months ended September 30, 2015 and 2014 (unaudited); and (v) the Notes to Unaudited Interim Consolidated Financial Statements.

* Denotes management contract, compensatory plan or arrangement.

CATALYST BIOSCIENCES, INC.
(Formerly, Targacept, Inc.)

2015 STOCK INCENTIVE PLAN

(As Amended and Restated Effective October 14, 2015)

CATALYST BIOSCIENCES, INC.
(Formerly, Targacept, Inc.)

2015 STOCK INCENTIVE PLAN

(As Amended and Restated Effective October 14, 2015)

Explanatory Note:

On August 20, 2015, Catalyst Biosciences, Inc., formerly known as Targacept, Inc. (the "Company"), completed its business combination with Catalyst Bio, Inc., formerly known as Catalyst Biosciences, Inc. ("Catalyst"), in accordance with the terms of the Agreement and Plan of Merger, dated as of March 5, 2015, as amended on May 6 and May 13, 2015 (the "Merger Agreement"), by and among the Company, Talos Merger Sub, Inc. ("Merger Sub") and Catalyst, pursuant to which Merger Sub merged with and into Catalyst, with Catalyst surviving as a wholly-owned subsidiary of the Company (the "Merger"). Also on August 20, 2015, in connection with, and prior to the completion of, the Merger, the Company effected a seven-for-one reverse stock split of its common stock and changed its name to "Catalyst Biosciences, Inc." The Targacept, Inc. 2015 Stock Incentive Plan (the "Plan") is hereby amended and restated effective as of the 14th day of October, 2015 by the Company to reflect the effect of the reverse stock split and related adjustments as provided under the terms of the Plan and to reflect the corporate name change and shall now be titled the Catalyst Biosciences, Inc. 2015 Stock Incentive Plan (As Amended and Restated Effective October 14, 2015).

1. Definitions

In addition to other terms defined herein or in an Award Agreement, the following terms shall have the meanings given below:

(a) Administrator means the Board, and, upon its delegation of all or part of its authority to administer the Plan to the Committee, the Committee.

(b) Affiliate means any Parent or Subsidiary of the Company, and also includes any other business entity which is controlled by, under common control with or controls the Company; provided, however, that the term "Affiliate" shall be construed in a manner in accordance with the registration provisions of applicable federal securities laws if and to the extent required.

(c) Applicable Law means any applicable laws, rules or regulations (or similar guidance), including but not limited to the General Corporation Law of the State of Delaware, the Securities Act, the Exchange Act, the Code and the listing or other rules of any applicable stock exchange.

(d) Award means, individually or collectively, a grant under the Plan of an Option (including an Incentive Option or a Nonqualified Option); a Stock Appreciation Right (including a Related SAR or a Freestanding SAR); a Restricted Award (including a Restricted Stock Award or a Restricted Stock Unit Award); a Performance Award (including a Performance Share Award or a Performance Unit Award); a Phantom Stock Award, an Other Stock-Based Award; a Cash Bonus Award; a Dividend Equivalent Award; and/or any other award granted under the Plan.

(e) Award Agreement means an award agreement (which may be in written or electronic form, in the Administrator's discretion, and which includes any amendment or supplement thereto)

between the Company and a Participant specifying the terms, conditions and restrictions of an Award granted to the Participant. An Award Agreement may also state such other terms, conditions and restrictions, including but not limited to terms, conditions and restrictions applicable to shares of Common Stock or any other benefit underlying an Award, as may be established by the Administrator.

(f) Base Price means, with respect to an SAR, the initial price assigned to the SAR.

(g) Board or Board of Directors means the Board of Directors of the Company.

(h) Cash Bonus Award means a cash-based Award granted pursuant to Section 13.

(i) Cause means, unless the Administrator determines otherwise, a Participant's termination of employment or service resulting from the Participant's (i) termination for "Cause" as defined under the Participant's employment, change in control, consulting or other agreement with the Company or an Affiliate, if any, or (ii) if the Participant has not entered into any such agreement (or, if any such agreement does not define "Cause"), then the Participant's termination shall be for "Cause" if termination results due to the Participant's (A) dishonesty; (B) refusal to perform his duties for the Company or an Affiliate; or (C) engaging in fraudulent conduct or conduct that could be materially damaging to the Company without a reasonable good faith belief that such conduct was in the best interest of the Company. The determination of "Cause" shall be made by the Administrator and its determination shall be final and conclusive. Without in any way limiting the effect of the foregoing, for purposes of the Plan and an Award, a Participant's employment or service shall also be deemed to have terminated for Cause if, after the Participant's employment or service has terminated, facts and circumstances are discovered that would have justified, in the opinion of the Administrator, a termination for Cause.

(j) A Change of Control shall (except as may be otherwise required, if at all, under Code Section 409A) be deemed to have occurred on the earliest of the following dates:

(i) The date any entity or person shall have become the beneficial owner of, or shall have obtained voting control over, thirty percent (30%) or more of the total voting power of the Company's then outstanding voting stock;

(ii) The date of the consummation of (A) a merger, consolidation or reorganization of the Company (or similar transaction involving the Company), in which the holders of the Common Stock immediately prior to the transaction have voting control over less than fifty-one percent (51%) of the voting securities of the surviving corporation immediately after such transaction, or (B) the sale or disposition of all or substantially all the assets of the Company; or

(iii) The date there shall have been a change in a majority of the Board of Directors of the Company within a 12-month period unless the nomination for election by the Company's stockholders of each new Director was approved by the vote of two-thirds of the members of the Board (or a committee of the Board, if nominations are approved by a Board committee rather than the Board) then still in office who were in office at the beginning of the 12-month period.

(For the purposes herein, the term "person" shall mean any individual, corporation, partnership, group, association or other person, as such term is defined in Section 13(d)(3) or Section 14(d)(2) of the Exchange Act, other than the Company, a Subsidiary of the Company or any employee benefit plan(s) sponsored or maintained by the Company or any Subsidiary thereof, and the term "beneficial owner" shall have the meaning given the term in Rule 13d-3 under the Exchange Act.)

For the purposes of clarity, a transaction shall not constitute a Change of Control if its principal purpose is to change the state of the Company's incorporation, create a holding company that would be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transaction or is another transaction of other similar effect.

Notwithstanding the preceding provisions of Section 1(j), in the event that any Awards granted under the Plan are deemed to be deferred compensation subject to (and not exempt from) the provisions of Code Section 409A, then distributions related to such Awards to be made upon a Change of Control may be permitted, in the Administrator's discretion, upon the occurrence of one or more of the following events (as they are defined and interpreted under Code Section 409A): (A) a change in the ownership of the Company; (B) a change in effective control of the Company; or (C) a change in the ownership of a substantial portion of the assets of the Company.

(k) Code means the Internal Revenue Code of 1986, as amended. Any reference herein to a specific Code section shall be deemed to include all related regulations or other guidance with respect to such Code section.

(l) Committee means the Compensation Committee of the Board or other committee of the Board which may be appointed to administer the Plan in whole or in part.

(m) Common Stock means the common stock of Catalyst Biosciences, Inc., $0.001 par value, or any successor securities thereto.

(n) Company means Catalyst Biosciences, Inc. (formerly known as Targacept, Inc.), a Delaware corporation, together with any successor thereto.

(o) Covered Employee shall have the meaning given the term in Code Section 162(m).

(p) Director means a member of the Board or of the board of directors of an Affiliate.

(q) Disability shall, except as may be otherwise determined by the Administrator (taking into account any Code Section 409A considerations), as applied to any Participant, having the meaning given in any Award Agreement, employment agreement, change in control agreement, consulting agreement or other similar agreement, if any, to which the Participant is a party, or, if there is no such agreement (or if such agreement does not define "Disability"), "Disability" shall mean the inability of the Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death, or which has lasted or can be expected to last for a continuous period of not less than 12 months. The Administrator shall have authority to determine if a Disability has occurred.

(r) Dividend Equivalent Awards shall mean a right granted to a Participant pursuant to Section 14 to receive the equivalent value (in cash or shares of Common Stock) of dividends paid on Common Stock.

(s) Effective Date means the effective date of the Plan, as provided in Section 4.

(t) Employee means any person who is an employee of the Company or any Affiliate (including entities which become Affiliates after the Effective Date of the Plan). For this purpose, an individual shall be considered to be an Employee only if there exists between the individual and the Company or an Affiliate the legal and bona fide relationship of employer and employee (taking into account Code Section 409A considerations if and to the extent applicable); provided, however, that, with

respect to Incentive Options, "Employee" means any person who is considered an employee of the Company or any Parent or Subsidiary for purposes of Treasury Regulation Section 1.421-1(h) (or any successor provision related thereto).

(u) Exchange Act means the Securities Exchange Act of 1934, as amended.

(v) Fair Market Value per share of the Common Stock shall be established in good faith by the Administrator and, unless otherwise determined by the Administrator, the Fair Market Value shall be determined in accordance with the following provisions: (A) if the shares of Common Stock are listed for trading on The NASDAQ Global Select Market ("Nasdaq") or another national or regional stock exchange, the Fair Market Value shall be the closing sales price per share of the shares on Nasdaq or other principal stock exchange on which such securities are listed on the date an Award is granted or other determination is made (such date of determination being referred to herein as a "valuation date"), or, if there is no transaction on such date, then on the trading date nearest preceding the valuation date for which closing price information is available, and, provided further, if the shares are not listed for trading on Nasdaq or another stock exchange but are regularly quoted on an automated quotation system (including the OTC Bulletin Board and the quotations published by the OTC Markets Group) or by a recognized securities dealer, the Fair Market Value shall be the closing sales price for such shares as quoted on such system or by such securities dealer on the valuation date, but if selling prices are not reported, the Fair Market Value of a share of Common Stock shall be the mean between the high bid and low asked prices for the Common Stock on the valuation date (or, if no such prices were reported on that date, on the last date such prices were reported), as reported in The Wall Street Journal or such other source as the Administrator deems reliable; or (B) if the shares of Common Stock are not listed or reported in any of the foregoing, then the Fair Market Value shall be determined by the Administrator based on such valuation measures or other factors as it deems appropriate. Notwithstanding the foregoing, (i) with respect to the grant of Incentive Options, the Fair Market Value shall be determined by the Administrator in accordance with the applicable provisions of Section 20.2031-2 of the Federal Estate Tax Regulations, or in any other manner consistent with the Code Section 422; and (ii) Fair Market Value shall be determined in accordance with Code Section 409A if and to the extent required.

(w) Freestanding SAR means an SAR that is granted without relation to an Option, as provided in Section 8.

(x) Full Value Award means an Award, other than in the form of an Option, SAR or Other Stock-Based Award, which is settled by the issuance of Common Stock.

(y) Good Reason means, unless the Administrator determines otherwise, in the context of a Change of Control, a Participant's termination of employment or service resulting from the Participant's (i) termination for "Good Reason" as defined under the Participant's employment, change in control, consulting or other agreement with the Company or an Affiliate, if any, or (ii) if the Participant has not entered into any agreement (or, if any such agreement does not define "Good Reason"), then, a Participant's termination shall be for "Good Reason" if termination results due to any of the following without the Participant's consent: (A) a material reduction in the Participant's base salary as in effect immediately prior to the date of the Change of Control, (B) the assignment to the Participant of duties or responsibilities materially inconsistent with, or a material diminution in, the Participant's position, authority, duties or responsibilities as in effect immediately prior to the Change of Control, or (C) the relocation of the Participant's principal place of employment by more than 50 miles from the location at which the Participant was stationed immediately prior to the Change of Control. Notwithstanding the foregoing, with respect to Directors, unless the Administrator determines otherwise, a Director's termination from service on the Board shall be for "Good Reason" if the Participant ceases to serve as a Director, or, if the Company is not the surviving company in the Change of Control event, a member of

the board of directors of the surviving entity, in either case, due to the Participant's failure to be nominated to serve as a director of such entity or the Participant's failure to be elected to serve as a director of such entity, but not due to the Participant's decision not to continue service on the Board of Directors of the Company or the board of directors of the surviving entity, as the case may be. An event or condition that would otherwise constitute "Good Reason" shall constitute Good Reason only if the Company fails to rescind or cure such event or condition within 30 days after receipt from the Participant of written notice of the event which constitutes Good Reason, and Good Reason shall cease to exist for any event or condition described herein on the 60th day following the later of the occurrence or the Participant's knowledge thereof, unless the Participant has given the Company written notice thereof prior to such date. In the context other than a Change of Control, "Good Reason" shall be as defined by the Administrator. The determination of "Good Reason" shall be made by the Administrator and its determination shall be final and conclusive.

(z) Incentive Option means an Option that is designated by the Administrator as an Incentive Option pursuant to Section 7 and intended to meet the requirements of incentive stock options under Code Section 422.

(aa) Independent Contractor means an independent contractor, consultant or advisor providing services (other than capital-raising services) to the Company or an Affiliate.

(bb) Nonqualified Option means an Option granted under Section 7 that is not intended to qualify as an incentive stock option under Code Section 422.

(cc) Option means a stock option granted under Section 7 that entitles the holder to purchase from the Company a stated number of shares of Common Stock at the Option Price, and subject to such terms and conditions, as may be set forth in the Plan or an Award Agreement or established by the Administrator.

(dd) Option Period means the term of an Option, as provided in Section 7(d).

(ee) Option Price means the price at which an Option may be exercised, as provided in Section 7(b).

(ff) Other Stock-Based Award means a right, granted to a Participant under Section 12, that relates to or is valued by referenced to shares of Common Stock or other Awards relating to shares of Common Stock.

(gg) Parent shall mean a "parent corporation," whether now or hereafter existing, as defined in Code Section 424(e).

(hh) Participant means an individual who is an Employee employed by, or a Director or Independent Contractor providing services to, the Company or an Affiliate who satisfies the requirements of Section 6 and is selected by the Administrator to receive an Award under the Plan.

(ii) Performance Award means a Performance Share Award and/or a Performance Unit Award, as provided in Section 10.

(jj) Performance Measures mean one or more performance factors which may be established by the Administrator with respect to an Award. Performance factors may be based on such corporate, business unit or division and/or individual performance factors and criteria as the Administrator in its discretion may deem appropriate; provided, however, that, if and to the extent required under Code

Section 162(m) with respect to Awards granted to Covered Employees that are intended to qualify as "performance-based compensation" under Code Section 162(m), such performance factors shall be objective and shall be based upon one or more of the following criteria (as determined by the Administrator in its discretion): (i) cash flow; (ii) return on equity; (iii) return on assets; (iv) earnings per share; (v) achievement of clinical development or regulatory milestones; (vi) operations expense efficiency milestones; (vii) consolidated earnings before or after taxes (including earnings before interest, taxes, depreciation and amortization); (viii) net income; (ix) operating income; (x) book value per share; (xi) return on investment; (xii) return on capital; (xiii) improvements in capital structure; (xiv) expense management; (xv) profitability of an identifiable business unit or product; (xvi) maintenance or improvement of profit margins; (xvii) stock price or total stockholder return; (xviii) market share; (xix) revenues or sales; (xx) costs; (xxi) working capital; (xxii) economic wealth created; (xxiii) strategic business criteria; (xxiv) efficiency ratio(s); (xxv) achievement of division, group, function or corporate financial, strategic or operational goals; and (xxvi) comparisons with stock market indices or performances of metrics of peer companies. In addition, with respect to compensation that is not intended to qualify for the performance-based compensation exception under Code Section 162(m), the Administrator may approve performance objectives based on other criteria, which may or may not be objective. To the extent that Code Section 162(m) is applicable, the Administrator shall, within the time and in the manner prescribed by Code Section 162(m), define in an objective fashion the manner of calculating the Performance Measures it selects to use for Covered Employees during any specific performance period. The foregoing criteria may relate to the Company, one or more of its Affiliates or one or more of its divisions, units, segments, partnerships, joint ventures or minority investments, facilities, product lines or products or any combination of the foregoing. The targeted level or levels of performance with respect to such business criteria may be established at such levels and on such terms as the Administrator may determine, in its discretion, including but not limited to on an absolute basis, in relation to performance in a prior performance period, relative to one or more peer group companies or indices, on a per share and/or share per capita basis, on a pre-tax or after tax basis, and/or any combination thereof. Such performance factors may be adjusted or modified due to extraordinary items, transactions, events or developments, or in recognition of any other unusual or infrequent events affecting the Company or the financial statements of the Company, or in response to changes in Applicable Law, accounting principles or business conditions, in each case as determined by the Administrator (provided that any adjustment or modification involving Covered Employees for compensation that is intended to qualify as "performance-based compensation" under Code Section 162(m) shall be made in an objectively determinable manner and shall be subject to any applicable Code Section 162(m) restrictions).

(kk) Performance Share means an Award granted under Section 10, in an amount determined by the Administrator and specified in an Award Agreement, stated with reference to a specified number of shares of Common Stock, that entitles the holder to receive shares of Common Stock, a cash payment, or a combination of Common Stock and cash (as determined by the Administrator), subject to the terms of the Plan and the terms and conditions established by the Administrator.

(ll) Performance Unit means an Award granted under Section 10, in an amount determined by the Administrator and specified in an Award Agreement, that entitles the holder to receive shares of Common Stock, a cash payment or a combination of Common Stock and cash (as determined by the Administrator), subject to the terms of the Plan and the terms and conditions established by the Administrator.

(mm) Phantom Stock Award means an Award granted under Section 11, entitling a Participant to a payment in cash, shares of Common Stock or a combination of cash and Common Stock (as determined by the Administrator), following the completion of the applicable vesting period and compliance with the terms of the Plan and other terms and conditions established by the Administrator.

The unit value of a Phantom Stock Award shall be based on the Fair Market Value of a share of Common Stock.

(nn) Plan means the Catalyst Biosciences, Inc. (formerly, Targacept, Inc.) 2015 Stock Incentive Plan, as amended and restated effective October 14, 2015, and as it may be hereafter amended and/or restated.

(oo) Prior Plan or Prior Plans means the Targacept, Inc. 2006 Stock Incentive Plan (the "2006 Plan"), the 2000 Equity Incentive Plan of Targacept, Inc. (the "2000 Plan") and any other stock incentive plan maintained by the Company, in each case, as amended and/or restated, for its or an Affiliate's employees, directors and/or independent contractors on or prior to the Effective Date of the Plan.

(pp) Related SAR means an SAR granted under Section 8 that is granted in relation to a particular Option and that can be exercised only upon the surrender to the Company, unexercised, of that portion of the Option to which the SAR relates.

(qq) Restricted Award means a Restricted Stock Award and/or a Restricted Stock Unit Award, as provided in Section 9.

(rr) Restricted Stock Award means shares of Common Stock granted to a Participant under Section 9. Shares of Common Stock subject to a Restricted Stock Award shall cease to be restricted when, in accordance with the terms of the Plan and the terms and conditions established by the Administrator, the shares vest and become transferable and free of substantial risks of forfeiture.

(ss) Restricted Stock Unit means a Restricted Award granted to a Participant pursuant to Section 9 which is settled, if at all, (i) by the delivery of one share of Common Stock for each Restricted Stock Unit, (ii) in cash in an amount equal to the Fair Market Value of one share of Common Stock for each Restricted Stock Unit, or (iii) in a combination of cash and shares equal to the Fair Market Value of one share of Common Stock for each Restricted Stock Unit, as determined by the Administrator. A Restricted Stock Unit represents the promise of the Company to deliver shares of Common Stock, cash or a combination thereof, as applicable, at the end of the applicable restriction period if and only to the extent the Award vests and ceases to be subject to forfeiture, subject to compliance with the terms of the Plan and Award Agreement and any terms and conditions established by the Administrator.

(tt) Retirement shall, except as may be otherwise determined by the Administrator (taking into account any Code Section 409A considerations), as applied to any Participant, have the meaning given in an Award Agreement, employment agreement, change in control agreement, consulting agreement or other similar agreement, if any, to which the Participant is a party, or, if there is no such agreement (or if such agreement does not define "Retirement"), then "Retirement" shall, unless the Administrator determines otherwise, mean retirement in accordance with the retirement policies and procedures established by the Company. The Administrator shall have authority to determine if a Retirement has occurred.

(uu) SAR means a stock appreciation right granted under Section 8 entitling the Participant to receive, with respect to each share of Common Stock encompassed by the exercise of such SAR, the excess, if any, of the Fair Market Value on the date of exercise over the Base Price, subject to the terms of the Plan and Award Agreement and any other terms and conditions established by the Administrator. References to "SARs" include both Related SARs and Freestanding SARs, unless the context requires otherwise.

(vv) Securities Act means the Securities Act of 1933, as amended.

(ww) Subsidiary shall mean a "subsidiary corporation," whether now or hereafter existing, as defined in Code Section 424(f).

(xx) Termination Date means the date of termination of a Participant's employment or service for any reason, as determined by the Administrator (taking into account any Code Section 409A considerations).

2. Purpose

The purposes of the Plan are to encourage and enable selected Employees, Directors and Independent Contractors of the Company and its Affiliates to acquire or to increase their holdings of Common Stock and other equity-based interests in the Company and/or to provide other incentive awards in order to promote a closer identification of their interests with those of the Company and its stockholders, and to provide flexibility to the Company in its ability to motivate, attract and retain the services of Participants upon whose judgment, interest and special effort the successful conduct of its operation largely depends. These purposes may be carried out through the granting of Awards to selected Participants, including the granting of Options in the form of Incentive Stock Options and/or Nonqualified Options; SARs in the form of Freestanding SARs and/or Related SARs; Restricted Awards in the form of Restricted Stock Awards and/or Restricted Stock Units; Performance Awards in the form of Performance Shares and/or Performance Units; Phantom Stock Awards; Other Stock-Based Awards; Cash Bonus Awards; and/or Dividend Equivalent Awards.

3. Administration of the Plan

(a) The Plan shall be administered by the Board of Directors of the Company or, upon its delegation, by the Committee (or a subcommittee thereof). To the extent required under Rule 16b-3 adopted under the Exchange Act, the Committee shall be comprised solely of two or more "non-employee directors," as such term is defined in Rule 16b-3, or as may otherwise be permitted under Rule 16b-3. Further, to the extent required by Code Section 162(m), the Plan shall be administered by a committee comprised of two or more "outside directors" (as such term is defined in Code Section 162(m)) or as may otherwise be permitted under Code Section 162(m). In addition, Committee members shall qualify as "independent directors" under applicable stock exchange rules if and to the extent required. Notwithstanding the foregoing, unless the Board determines otherwise, the Board shall have sole authority to grant Awards to Directors who are not Employees of the Company or its Affiliates (provided, however, that the Committee shall have authority to administer such Awards unless otherwise determined by the Board).

(b) Subject to the provisions of the Plan, the Administrator shall have full and final authority in its discretion to take any action with respect to the Plan including, without limitation, the authority to (i) determine all matters relating to Awards, including selection of individuals to be granted Awards, the types of Awards, the number of shares of Common Stock, if any, subject to an Award, and all terms, conditions, restrictions and limitations of an Award; (ii) prescribe the form or forms of Award Agreements evidencing any Awards granted under the Plan; (iii) establish, amend and rescind rules and regulations for the administration of the Plan; (iv) correct any defect, supply any omission or reconcile any inconsistency in the Plan or in any Award or Award Agreement; and (v) construe and interpret the Plan, Awards and Award Agreements made under the Plan, to interpret rules and regulations for administering the Plan and to make all other determinations deemed necessary or advisable for administering the Plan. In addition, (i) the Administrator shall have the authority, subject to the restrictions contained in Section 3(c) herein, to accelerate the date that any Award which was not otherwise exercisable, vested or earned shall become exercisable, vested or earned in whole or in part without any obligation to accelerate such date with respect to any other Award granted to any recipient;

and (ii) the Administrator may in its sole discretion modify or extend the terms and conditions for exercise, vesting or earning of an Award (in each case, taking into account any Code Section 409A considerations). The Administrator may determine that a Participant's rights, payments and/or benefits with respect to an Award (including but not limited to any shares issued or issuable and/or cash paid or payable with respect to an Award) shall be subject to reduction, cancellation, forfeiture or recoupment upon the occurrence of certain specified events, in addition to any otherwise applicable vesting or performance conditions of an Award. Such events may include, but shall not be limited to, termination of employment for Cause, violation of policies of the Company or an Affiliate, breach of non-solicitation, noncompetition, confidentiality or other restrictive covenants that may apply to the Participant, other conduct by the Participant that is determined by the Administrator to be detrimental to the business or reputation of the Company or any Affiliate, and/or other circumstances where such reduction, cancellation, forfeiture or recoupment is required by Applicable Law. In addition, the Administrator shall have the authority and discretion to establish terms and conditions of Awards (including but not limited to the establishment of subplans) as the Administrator determines to be necessary or appropriate to conform to the applicable requirements or practices of jurisdictions outside of the United States. In addition to action by meeting in accordance with Applicable Law, any action of the Administrator with respect to the Plan may be taken by a written instrument signed by all of the members of the Board or Committee, as appropriate, and any such action so taken by written consent shall be as fully effective as if it had been taken by a majority of the members at a meeting duly held and called. All determinations of the Administrator with respect to the Plan and any Award or Award Agreement will be final and binding on the Company and all persons having or claiming an interest in any Award granted under the Plan. No member of the Board or Committee, as applicable, shall be liable while acting as Administrator for any action or determination made in good faith with respect to the Plan, an Award or an Award Agreement. The members of the Board or Committee, as applicable, shall be entitled to indemnification and reimbursement in the manner and to the fullest extent provided in the Company's certificate of incorporation and/or bylaws and/or pursuant to Applicable Law.

(c) Notwithstanding the provisions of Section 3(b), Awards (other than Other Stock-Based Awards) granted to Employees under the Plan shall be subject to a minimum vesting period of one year (which may include installment vesting within such one-year period as determined by the Administrator); provided, however, that (i) the Administrator may provide for acceleration of vesting of all or a portion of an Award in the event of a Participant's death, Disability or Retirement, or (to the extent provided in Section 15 herein) upon the occurrence of a Change of Control of the Company; (ii) the Administrator may provide for the grant of an Award without a minimum vesting period or may accelerate the vesting of all or a portion of an Award for any reason, but only with respect to Awards for no more than an aggregate of five percent (5%) of the total number of Shares authorized for issuance under the Plan pursuant to Section 5(a) herein, upon such terms and conditions as the Administrator shall determine; and (iii) the Administrator also may provide for the grant of Awards to Participants that have different vesting terms in the case of Other Stock-Based Awards or Awards that are substituted for other equity awards in connection with mergers, consolidations or other similar transactions, Awards that are granted as an inducement to be employed by the Company or an Affiliate or to replace forfeited awards from a former employer, or Awards that are granted in exchange for foregone cash compensation.

(d) Notwithstanding the other provisions of Section 3, the Board may expressly delegate to one or more officers of the Company or a special committee consisting of one or more directors who are also officers of the Company the authority, within specified parameters, to grant Awards to eligible Participants, and to make any or all of the determinations reserved for the Administrator in the Plan and summarized in Section 3(b) with respect to such Awards (subject to any restrictions imposed by Applicable Law and such terms and conditions as may be established by the Administrator); provided, however, that, if and to the extent required by Section 16 of the Exchange Act or Code Section 162(m), the Participant, at the time of said grant or other determination, (i) is not deemed to be an officer or

director of the Company within the meaning of Section 16 of the Exchange Act; and (ii) is not deemed to be a Covered Employee as defined under Code Section 162(m). To the extent that the Administrator has delegated authority to grant Awards pursuant to this Section 3(d) to an officer and/or a special committee, references to the "Administrator" shall include references to such officer(s) and/or special committee, subject, however, to the requirements of the Plan, Rule 16b-3, Code Section 162(m) and other Applicable Law.

4. Effective Date

The Effective Date of the Plan shall be August 18, 2015 (the "Effective Date"). Awards may be granted on or after the Effective Date, but no Awards may be granted after August 18, 2025. Awards that are outstanding at the end of the Plan term (or such earlier termination date as may be established by the Board pursuant to Section 17(a)) shall continue in accordance with their terms, unless otherwise provided in the Plan or an Award Agreement.

5. Shares of Stock Subject to the Plan; Award Limitations

(a) *Shares of Stock Subject to the Plan*: Subject to adjustments as provided in Section 5(d), the maximum aggregate number of shares of Common Stock that may be issued pursuant to Awards granted under the Plan shall not exceed the sum of (i) 591,757 plus (ii) any shares subject to an award granted under a Prior Plan, which award is forfeited, cancelled, terminated, expires or lapses for any reason. Shares delivered under the Plan shall be authorized but unissued shares, treasury shares or shares purchased on the open market or by private purchase. The Company hereby reserves sufficient authorized shares of Common Stock to meet the grant of Awards hereunder.

(b) *Award Limitations*: Notwithstanding any provision in the Plan to the contrary, the following limitations shall apply to Awards granted under the Plan, in each case subject to adjustments pursuant to Section 5(d):

(i) The maximum aggregate number of shares of Common Stock that may be issued under the Plan pursuant to the grant of Incentive Options shall not exceed 591,757 shares;

(ii) In any 12-month period, no Participant may be granted Options and SARs that are not related to an Option for more than 71,428 shares of Common Stock (or the equivalent value thereof based on the Fair Market Value per share of the Common Stock on the date of grant of an Award);

(iii) In any 12-month period, no Participant may be granted Awards other than Options or SARs that are settled in shares of Common Stock for more than 71,428 shares of Common Stock (or the equivalent value thereof based on the Fair Market Value per share of the Common Stock on the date of grant of an Award); provided, however that Cash Bonus Awards shall be governed by the provisions of Section 13 herein.

(iv) Notwithstanding the provisions of Section 5(b)(ii) and (iii) herein, with respect to non-employee Directors, in any 12-month period, no such Director may be granted Awards for more than 21,428 shares of Common Stock (or the equivalent value thereof based on the Fair Market Value per share of Common Stock on the date of grant); provided, however, that any Director cash retainer fees or other fees that are settled in shares of Common Stock shall not be subject to this limitation.

(For purposes of Section 5(b)(ii), (iii) and (iv), an Option and Related SAR shall be treated as a single Award.)

(c) *Additional Share Counting Provisions*. The following provisions shall apply with respect to the share limitations of Section 5(a):

(i) To the extent that an Award is canceled, terminates, expires, is forfeited or lapses for any reason, any unissued or forfeited shares subject to the Award will again be available for issuance pursuant to Awards granted under the Plan.

(ii) Awards (other than SARs) settled in cash shall not be counted against the share limitations stated in Section 5(a) herein.

(iii) Dividends, including dividends paid in shares, or dividend equivalents paid in cash in connection with outstanding Awards, will not be counted towards the share limitations in Section 5(a).

(iv) To the extent that the full number of shares subject to an Award other than an Option or SAR is not issued for any reason, including by reason of failure to achieve maximum performance goals, only the number of shares issued and delivered shall be considered for purposes of determining the number of shares remaining available for issuance pursuant to Awards granted under the Plan.

(v) The following shares of Common Stock may not again be made available for issuance as Awards under the Plan: (A) shares withheld from an Award or delivered by a Participant to satisfy minimum tax withholding requirements for Awards, (B) shares not issued or delivered as a result of the net settlement of an outstanding SAR or Option, (C) shares used to pay the exercise price related to an outstanding Option or (D) shares repurchased on the open market with the proceeds of the Option Price.

(vi) Further, (A) shares issued under the Plan through the settlement, assumption or substitution of outstanding awards granted by another entity or obligations to grant future awards as a condition of or in connection with a merger, acquisition or similar transaction involving the Company acquiring another entity shall not reduce the maximum number of shares available for delivery under the Plan, and (B) available shares under a stockholder approved plan of an acquired company (as appropriately adjusted to reflect the transaction) may be used for Awards under the Plan and will not reduce the maximum number of shares available under the Plan, subject, in the case of both (A) and (B) herein, to applicable stock exchange listing requirements.

(d) *Adjustments; Right to Issue Additional Securities*: If there is any change in the outstanding shares of Common Stock because of a merger, consolidation or reorganization involving the Company, or if the Board of Directors of the Company declares a stock dividend, stock split distributable in shares of Common Stock, other distribution (other than regular or ordinary cash dividends) or reverse stock split, combination or reclassification of the Common Stock, or if there is a similar change in the capital stock structure of the Company affecting the Common Stock (excluding conversion of convertible securities by the Company and/or the exercise of warrants by their holders), then the number of shares of Common Stock reserved for issuance under the Plan shall be correspondingly adjusted, and the Administrator shall make such adjustments to Awards or to any provisions of this Plan as the Administrator deems equitable to prevent dilution or enlargement of Awards or as may otherwise be advisable. Nothing in the Plan, an Award or an Award Agreement shall limit the ability of the Company to issue additional securities (including but not limited to the issuance of other options or other derivative securities, warrants, additional shares or classes of Common Stock, preferred stock and/or other convertible securities).

6. Eligibility

An Award may be granted only to an individual who satisfies all of the following eligibility requirements on the date the Award is granted:

(a) The individual is either (i) an Employee, (ii) a Director or (iii) an Independent Contractor.

(b) With respect to the grant of Incentive Options, the individual is otherwise eligible to participate under this Section 6, is an Employee of the Company or a Parent or Subsidiary and does not own, immediately before the time that the Incentive Option is granted, stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or a Parent or Subsidiary. Notwithstanding the foregoing, an Employee who owns more than 10% of the total combined voting power of all classes of stock of the Company or a Parent or Subsidiary may be granted an Incentive Option if the Option Price is at least 110% of the Fair Market Value of the Common Stock, and the Option Period does not exceed five years. For this purpose, an individual will be deemed to own stock which is attributable to him under Code Section 424(d).

(c) With respect to the grant of substitute awards or assumption of awards in connection with a merger, consolidation, acquisition, reorganization or similar transaction involving the Company or an Affiliate, the recipient is otherwise eligible to receive the Award and the terms of the award are consistent with the Plan and Applicable Law (including, to the extent necessary, the federal securities laws registration provisions, Code Section 409A and Code Section 424(a)).

(d) The individual, being otherwise eligible under this Section 6, is selected by the Administrator as an individual to whom an Award shall be granted (as defined above, a "Participant").

7. Options

(a) *Grant of Options*: Subject to the limitations of the Plan, the Administrator may in its discretion grant Options to such eligible Participants in such numbers, subject to such terms and conditions, and at such times as the Administrator shall determine. Both Incentive Options and Nonqualified Options may be granted under the Plan, as determined by the Administrator; provided, however, that Incentive Options may only be granted to Employees of the Company or a Parent or Subsidiary. To the extent that an Option is designated as an Incentive Option but does not qualify as such under Code Section 422, the Option (or portion thereof) shall be treated as a Nonqualified Option. An Option may be granted with or without a Related SAR.

(b) *Option Price*: The Option Price per share at which an Option may be exercised shall be established by the Administrator and stated in the Award Agreement evidencing the grant of the Option; provided, that (i) the Option Price of an Option shall be no less than 100% of the Fair Market Value per share of the Common Stock as determined on the date the Option is granted (or 110% of the Fair Market Value with respect to Incentive Options granted to an Employee who owns stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or a Parent or Subsidiary, as provided in Section 6(b)); and (ii) in no event shall the Option Price per share of any Option be less than the par value, if any, per share of the Common Stock. Notwithstanding the foregoing, the Administrator may in its discretion authorize the grant of substitute or assumed options of an acquired entity with an Option Price not equal to 100% of the Fair Market Value of the stock on the date of grant, if the terms of such substitution or assumption otherwise comply, to the extent deemed applicable, with Code Section 409A and/or Code Section 424(a).

(c) *Date of Grant*: An Option shall be considered to be granted on the date that the Administrator acts to grant the Option, or on such later date as may be established by the Administrator in accordance with Applicable Law.

(d) *Option Period and Limitations on the Right to Exercise Options:*

(i) The Option Period shall be determined by the Administrator at the time the Option is granted and shall be stated in the Award Agreement. The Option Period shall not extend more than 10 years from the date on which the Option is granted (or five years with respect to Incentive Options granted to an Employee who owns stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or a Parent or Subsidiary, as provided in Section 6(b)). Any Option or portion thereof not exercised before expiration of the Option Period shall terminate. The period or periods during which, and the terms and conditions pursuant to which, an Option may vest and become exercisable shall be determined by the Administrator in its discretion, subject to the terms of the Plan (including but not limited to the provisions of Section 3(c) herein).

(ii) An Option may be exercised by giving written notice to the Company in form acceptable to the Administrator at such place and subject to such conditions as may be established by the Administrator or its designee. Such notice shall specify the number of shares to be purchased pursuant to an Option and the aggregate purchase price to be paid therefor and shall be accompanied by payment of such purchase price. Unless an Award Agreement provides otherwise, such payment shall be in the form of cash or cash equivalent; provided that, except where prohibited by the Administrator or Applicable Law (and subject to such terms and conditions as may be established by the Administrator), payment may also be made:

(A) By delivery (by either actual delivery or attestation) of shares of Common Stock owned by the Participant for such time period, if any, as may be determined by the Administrator;

(B) By shares of Common Stock withheld upon exercise;

(C) By delivery of written notice of exercise to the Company and delivery to a broker of written notice of exercise and irrevocable instructions to promptly deliver to the Company the amount of sale or loan proceeds to pay the Option Price;

(D) By such other payment methods as may be approved by the Administrator and which are acceptable under Applicable Law; or

(E) By any combination of the foregoing methods.

Shares delivered or withheld in payment on the exercise of an Option shall be valued at their Fair Market Value on the date of exercise, as determined by the Administrator or its designee.

(iii) The Administrator shall determine the extent, if any, to which a Participant may have the right to exercise an Option following termination of the Participant's employment or service with the Company. Such rights, if any, shall be subject to the sole discretion of the Administrator, shall be stated in the individual Award Agreement, need not be uniform among all Options issued pursuant to this Section 7, and may reflect distinctions based on the reasons for termination of employment or service.

(e) *Notice of Disposition*: If shares of Common Stock acquired upon exercise of an Incentive Option are disposed of within two years following the date of grant or one year following the transfer of such shares to a Participant upon exercise, the Participant shall, promptly following such disposition, notify the Company in writing of the date and terms of such disposition and provide such other information regarding the disposition as the Administrator may reasonably require.

(f) *Limitation on Incentive Options*: In no event shall there first become exercisable by an Employee in any one calendar year Incentive Options granted by the Company or any Parent or Subsidiary with respect to shares having an aggregate Fair Market Value (determined at the time an Incentive Option is granted) greater than $100,000; provided that, if such limit is exceeded, then the first $100,000 of shares to become exercisable in such calendar year will be Incentive Options and the Options (or portion thereof) for shares with a value in excess of $100,000 that first became exercisable in that calendar year will be Nonqualified Options. In the event the Code or the regulations promulgated thereunder are amended after the Effective Date of the Plan to provide for a different limitation on the Fair Market Value of shares permitted to be subject to Incentive Options, then such different limit shall be automatically incorporated herein. To the extent that any Incentive Options are first exercisable by a Participant in excess of the limitation described herein, the excess shall be considered a Nonqualified Option.

(g) *Nontransferability of Options*: Incentive Options shall not be transferable (including by sale, assignment, pledge or hypothecation) other than transfers by will or the laws of intestate succession or, in the Administrator's discretion, such transfers as may otherwise be permitted in accordance with Treasury Regulation Section 1.421-1(b)(2) or Treasury Regulation Section 1.421-2(c) or any successor provisions thereto. Nonqualified Options shall not be transferable (including by sale, assignment, pledge or hypothecation) other than by will or the laws of intestate succession, except for transfers if and to the extent permitted by the Administrator in a manner consistent with the registration provisions of the Securities Act. Except as may be permitted by the preceding, an Option shall be exercisable during the Participant's lifetime only by him or by his guardian or legal representative. The designation of a beneficiary in accordance with the Plan does not constitute a transfer.

8. Stock Appreciation Rights

(a) *Grant of SARs*: Subject to the limitations of the Plan, the Administrator may in its discretion grant SARs to such eligible Participants, in such numbers, upon such terms and at such times as the Administrator shall determine. SARs may be granted to the holder of an Option (a "Related Option") with respect to all or a portion of the shares of Common Stock subject to the Related Option (a "Related SAR") or may be granted separately to an eligible individual (a "Freestanding SAR"). The Base Price per share of an SAR shall be no less than 100% of the Fair Market Value per share of the Common Stock on the date the SAR is granted. Notwithstanding the foregoing, the Administrator may in its discretion authorize the grant of substitute or assumed SARs of an acquired entity with a Base Price per share not equal to at least 100% of the Fair Market Value of the stock on the date of grant, if the terms of such substitution or assumption otherwise comply, to the extent deemed applicable, with Code Section 409A and/or Code Section 424(a). An SAR shall be considered to be granted on the date that the Administrator acts to grant the SAR, or on such other date as may be established by the Administrator in accordance with Applicable Law.

(b) *Related SARs*: A Related SAR may be granted either concurrently with the grant of the Related Option or (if the Related Option is a Nonqualified Option) at any time thereafter prior to the

complete exercise, termination, expiration or cancellation of such Related Option. The Base Price of a Related SAR shall be equal to the Option Price of the Related Option. Related SARs shall be exercisable only at the time and to the extent that the Related Option is exercisable (and may be subject to such additional limitations on exercisability as the Administrator may provide in an Award Agreement), and in no event after the complete termination or full exercise of the Related Option. Notwithstanding the foregoing, a Related SAR that is related to an Incentive Option may be exercised only to the extent that the Related Option is exercisable and only when the Fair Market Value exceeds the Option Price of the Related Option. Upon the exercise of a Related SAR granted in connection with a Related Option, the Option shall be canceled to the extent of the number of shares as to which the SAR is exercised, and upon the exercise of a Related Option, the Related SAR shall be canceled to the extent of the number of shares as to which the Related Option is exercised or surrendered.

(c) *Freestanding SARs*: An SAR may be granted without relationship to an Option (as defined above, a "Freestanding SAR") and, in such case, will be exercisable upon such terms and subject to such conditions as may be determined by the Administrator, subject to the terms of the Plan.

(d) *Exercise of SARs*:

(i) Subject to the terms of the Plan (including but not limited to Section 3(c) herein), SARs shall be vested and exercisable in whole or in part upon such terms and conditions as may be established by the Administrator. The period during which an SAR may be exercisable shall not exceed 10 years from the date of grant or, in the case of Related SARs, such shorter Option Period as may apply to the Related Option. Any SAR or portion thereof not exercised before expiration of the period established by the Administrator shall terminate.

(ii) SARs may be exercised by giving written notice to the Company in form acceptable to the Administrator at such place and subject to such terms and conditions as may be established by the Administrator or its designee. Unless the Administrator determines otherwise, the date of exercise of an SAR shall mean the date on which the Company shall have received proper notice from the Participant of the exercise of such SAR.

(iii) The Administrator shall determine the extent, if any, to which a Participant may have the right to exercise an SAR following termination of the Participant's employment or service with the Company. Such rights, if any, shall be determined in the sole discretion of the Administrator, shall be stated in the individual Award Agreement, need not be uniform among all SARs issued pursuant to this Section 8, and may reflect distinctions based on the reasons for termination of employment or service.

(e) *Payment Upon Exercise*: Subject to the limitations of the Plan, upon the exercise of an SAR, a Participant shall be entitled to receive payment from the Company in an amount determined by multiplying (i) the excess, if any, of the Fair Market Value of a share of Common Stock on the date of exercise of the SAR over the Base Price of the SAR by (ii) the number of shares of Common Stock with respect to which the SAR is being exercised. The consideration payable upon exercise of an SAR shall be paid in cash, shares of Common Stock (valued at Fair Market Value on the date of exercise of the SAR) or a combination of cash and shares of Common Stock, as determined by the Administrator.

(f) *Nontransferability*: Unless the Administrator determines otherwise, SARs shall not be transferable (including by sale, assignment, pledge or hypothecation) other than by will or the laws of intestate succession, except for transfers if and to the extent permitted by the Administrator in a manner consistent with the registration provisions of the Securities Act. Except as may be permitted by the preceding sentence, SARs may be exercised during the Participant's lifetime only by him or by his guardian or legal representative. The designation of a beneficiary in accordance with the Plan does not constitute a transfer.

9. Restricted Awards

(a) *Grant of Restricted Awards*: Subject to the limitations of the Plan, the Administrator may in its discretion grant Restricted Awards to such Participants, for such numbers of shares of Common Stock, upon such terms and at such times as the Administrator shall determine. Such Restricted Awards may be in the form of Restricted Stock Awards and/or Restricted Stock Units that are subject to certain conditions, which conditions must be met in order for the Restricted Award to vest and be earned (in whole or in part) and no longer subject to forfeiture. Restricted Stock Awards shall be payable in shares of Common Stock. Restricted Stock Units shall be payable in cash or shares of Common Stock, or partly in cash and partly in shares of Common Stock, in accordance with the terms of the Plan and the discretion of the Administrator. Subject to the provisions of Section 3(c) herein, the Administrator shall determine the nature, length and starting date of the period, if any, during which a Restricted Award may be earned (the "Restriction Period"), and shall determine the conditions which must be met in order for a Restricted Award to be granted or to vest or be earned (in whole or in part), which conditions may include, but are not limited to, payment of a stipulated purchase price, attainment of performance objectives, continued service or employment for a certain period of time, a combination of attainment of performance objectives and continued service, Retirement, Disability, death or any combination of such conditions. In the case of Restricted Awards based upon performance criteria, or a combination of performance criteria and continued service, the Administrator shall determine the Performance Measures applicable to such Restricted Awards (subject to Section 1(jj)).

(b) *Vesting of Restricted Awards*: Subject to the terms of the Plan (and taking into account any Code Section 409A considerations), the Administrator shall have sole authority to determine whether and to what degree Restricted Awards have vested and been earned and are payable and to establish and interpret the terms and conditions of Restricted Awards.

(c) *Termination of Employment or Service; Forfeiture*: Unless the Administrator determines otherwise, if the employment or service of a Participant shall be terminated for any reason (whether by the Company or the Participant and whether voluntary or involuntary) and all or any part of a Restricted Award has not vested or been earned pursuant to the terms of the Plan and related Award Agreement, such Award, to the extent not then vested or earned, shall be forfeited immediately upon such termination and the Participant shall have no further rights with respect thereto.

(d) *Share Certificates; Escrow*: Unless the Administrator determines otherwise, a certificate or certificates representing the shares of Common Stock subject to a Restricted Stock Award shall be issued in the name of the Participant (or, in the case of uncertificated shares, other written evidence of ownership in accordance with Applicable Law shall be provided) after the Award has been granted. Notwithstanding the foregoing, the Administrator may require that (i) a Participant deliver the certificate(s) (or other instruments) for such shares to the Administrator or its designee to be held in escrow until the Restricted Stock Award vests and is no longer subject to a substantial risk of forfeiture (in which case the shares will be promptly released to the Participant) or is forfeited (in which case the shares shall be returned to the Company); and/or (ii) a Participant deliver to the Company a stock power, endorsed in blank (or similar instrument), relating to the shares subject to the Restricted Stock Award which are subject to forfeiture. Unless the Administrator determines otherwise, a certificate or certificate representing shares of Common Stock issuable pursuant to a Restricted Stock Unit shall be issued in the name of the Participant (or, in the case of uncertificated shares, other written evidence of ownership in accordance with Applicable Law shall be provided) promptly after the Award (or portion thereof) has vested and is distributable.

(e) *Nontransferability*: Unless the Administrator determines otherwise, Restricted Awards that have not vested shall not be transferable (including by sale, assignment, pledge or hypothecation) other than transfers by will or the laws of intestate succession, and the recipient of a Restricted Award shall not sell, transfer, assign, pledge or otherwise encumber shares subject to the Award until the Restriction Period has expired and until all conditions to vesting have been met. The designation of a beneficiary in accordance with the Plan does not constitute a transfer.

10. Performance Awards

(a) *Grant of Performance Awards*: Subject to the terms of the Plan, the Administrator may in its discretion grant Performance Awards to such eligible Participants upon such terms and conditions and at such times as the Administrator shall determine. Performance Awards may be in the form of Performance Shares and/or Performance Units. An Award of a Performance Share is a grant of a right to receive shares of Common Stock, the cash value thereof, or a combination thereof (in the Administrator's discretion), which is contingent upon the achievement of performance or other objectives during a specified period and which has a value on the date of grant equal to the Fair Market Value of a share of Common Stock. An Award of a Performance Unit is a grant of a right to receive shares of Common Stock or a designated dollar value amount of Common Stock which is contingent upon the achievement of performance or other objectives during a specified period, and which has an initial value determined in a dollar amount established by the Administrator at the time of grant. Subject to Section 5(b), the Administrator shall have discretion to determine the number of Performance Units and/or Performance Shares granted to any Participant. Subject to the provisions of Section 3(c) herein, the Administrator shall determine the nature, length and starting date of the period during which a Performance Award may be earned (the "Performance Period"), and shall determine the conditions which must be met in order for a Performance Award to be granted or to vest or be earned (in whole or in part), which conditions may include but are not limited to payment of a stipulated purchase price, attainment of performance objectives, continued service or employment for a certain period of time, or a combination of any such conditions. Subject to Section 1(jj), the Administrator shall determine the Performance Measures to be used in valuing Performance Awards.

(b) *Earning of Performance Awards*: Subject to the terms of the Plan (and taking into account any Code Section 409A considerations), the Administrator shall have sole authority to determine whether and to what degree Performance Awards have been earned and are payable and to interpret the terms and conditions of Performance Awards and the provisions of this Section 10.

(c) *Form of Payment*: Payment of the amount to which a Participant shall be entitled upon earning a Performance Award shall be made in cash, shares of Common Stock, or a combination of cash and shares of Common Stock, as determined by the Administrator in its sole discretion. Payment may be made in a lump sum or upon such terms as may be established by the Administrator (taking into account any Code Section 409A considerations).

(d) *Termination of Employment or Service; Forfeiture*: Unless the Administrator determines otherwise (taking into account any Code Section 409A considerations), if the employment or service of a Participant shall terminate for any reason (whether by the Company or the Participant and whether voluntary or involuntary) and the Participant has not earned all or part of a Performance Award pursuant to the terms of the Plan and related Award Agreement, such Award, to the extent not then earned, shall be forfeited immediately upon such termination and the Participant shall have no further rights with respect thereto.

(e) *Nontransferability:* Unless the Administrator determines otherwise, Performance Awards which have not been earned shall not be transferable (including by sale, assignment, pledge or

hypothecation) other than transfers by will or the laws of intestate succession, and the recipient of a Performance Award shall not sell, transfer, assign, pledge or otherwise encumber any shares or any other benefit subject to the Award until the Performance Period has expired and the conditions to earning the Award have been met. The designation of a beneficiary in accordance with the Plan does not constitute a transfer.

11. Phantom Stock Awards

(a) *Grant of Phantom Stock Awards*: Subject to the terms of the Plan, the Administrator may in its discretion grant Phantom Stock Awards to such eligible Participants, in such numbers, upon such terms and at such times as the Administrator shall determine. A Phantom Stock Award is an Award to a Participant of a number of hypothetical share units with respect to shares of Common Stock, with a value based on the Fair Market Value of a share of Common Stock.

(b) *Vesting of Phantom Stock Awards*: Subject to the terms of the Plan (and taking into account any Code Section 409A considerations), the Administrator shall have sole authority to determine whether and to what degree Phantom Stock Awards have vested and are payable and to interpret the terms and conditions of Phantom Stock Awards.

(c) *Termination of Employment or Service; Forfeiture*: Unless the Administrator determines otherwise (taking into account any Code Section 409A considerations), if the employment or service of a Participant shall be terminated for any reason (whether by the Company or the Participant and whether voluntary or involuntary) and all or any part of a Phantom Stock Award has not vested and become payable pursuant to the terms of the Plan and related Award Agreement, such Award, to the extent not then vested or earned, shall be forfeited immediately upon such termination and the Participant shall have no further rights with respect thereto.

(d) *Payment of Phantom Stock Awards*: Upon vesting of all or a part of a Phantom Stock Award and satisfaction of such other terms and conditions as may be established by the Administrator, the Participant shall be entitled to a payment of an amount equal to the Fair Market Value of one share of Common Stock with respect to each such Phantom Stock unit which has vested and is payable. Payment may be made, in the discretion of the Administrator, in cash or in shares of Common Stock valued at their Fair Market Value on the applicable vesting date or dates (or other date or dates determined by the Administrator), or in a combination thereof. Payment may be made in a lump sum or upon such terms as may be established by the Administrator (taking into account any Code Section 409A considerations).

(e) *Nontransferability*: Unless the Administrator determines otherwise, (i) Phantom Stock Awards shall not be transferable (including by sale, assignment, pledge or hypothecation) other than transfers by will or the laws of intestate succession and (ii) shares of Common Stock (if any) subject to a Phantom Stock Award may not be sold, transferred, assigned, pledged or otherwise encumbered until the Phantom Stock Award has vested and all other conditions established by the Administrator have been met. The designation of a beneficiary in accordance with the Plan does not constitute a transfer.

12. Other Stock-Based Awards

The Administrator shall have the authority to grant Other Stock-Based Awards to one or more eligible Participants. Such Other Stock-Based Awards may be valued in whole or in part by reference to, or otherwise based on or related to, shares of Common Stock or Awards for shares of Common Stock, including but not limited to Other Stock-Based Awards granted in lieu of bonus, salary or other compensation, Other Stock-Based Awards granted with vesting or performance conditions, and/or Other Stock-Based Awards granted without being subject to vesting or performance conditions. Subject to the

provisions of the Plan, the Administrator shall determine the number of shares of Common Stock to be awarded to a Participant under (or otherwise related to) such Other Stock-Based Awards; whether such Other Stock-Based Awards shall be settled in cash, shares of Common Stock or a combination of cash and shares of Common Stock; and the other terms and conditions of such Awards. Unless the Administrator determines otherwise, (i) Other Stock-Based Awards shall not be transferable (including by sale, assignment, pledge or hypothecation) other than transfers by will or the laws of intestate succession, and (ii) shares of Common Stock (if any) subject to an Other Stock-Based Award may not be sold, transferred, assigned, pledged or otherwise encumbered until the Other Stock-Based Award has vested and all other conditions established by the Administrator have been met. The designation of a beneficiary in accordance with the Plan does not constitute a transfer.

13. Cash Bonus Awards

The Administrator may, in its discretion, grant Cash Bonus Awards under the Plan to one or more eligible Participants. Cash Bonus Awards shall be subject to performance conditions as described in Section 1(jj) above and, to the extent such Cash Bonus Awards are granted to Covered Employees and intended to qualify as "performance-based compensation" under Code Section 162(m), shall be subject to the requirements of Code Section 162(m), including without limitation, the establishment of Performance Measures and certification of performance by the Committee as provided in Section 1(jj) and Section 20(c). The Administrator also shall have authority to modify, reduce or eliminate any Cash Bonus Award. In addition, the aggregate amount of compensation granted to any one Participant in any 12-month period in respect of all Cash Bonus Awards granted under the Plan and payable only in cash (and exclusive of Restricted Stock Unit Awards, Phantom Stock Awards, SARs or other equity-based Awards settled in cash, which are subject to the Award limitations stated in Section 5(b) herein) shall not exceed $1,000,000.

14. Dividends and Dividend Equivalents

The Administrator may, in its sole discretion, provide that Awards other than Options and SARs earn dividends or dividend equivalents; provided, however, that dividends and dividend equivalents, if any, on unearned or unvested performance-based Awards shall not be paid (even if accrued) unless and until the underlying Award (or portion thereof) has vested and/or been earned. Such dividends or dividend equivalents may be paid currently or may be credited to a Participant's account. Any crediting of dividends or dividend equivalents may be subject to such additional restrictions and conditions as the Administrator may establish, including reinvestment in additional shares of Common Stock or share equivalents. Notwithstanding the other provisions herein, any dividends or dividend equivalents related to an Award shall be structured in a manner so as to avoid causing the Award and related dividends or dividend equivalents to be subject to Code Section 409A or shall otherwise be structured so that the Award and dividends or dividend equivalents are in compliance with Code Section 409A.

15. Change of Control

Notwithstanding any other provision in the Plan to the contrary (and unless an individual employment agreement in effect prior to the Effective Date provides otherwise), the following provisions shall apply in the event of a Change of Control:

(a) To the extent that the successor or surviving company in the Change of Control event does not assume or substitute for an Award (or in which the Company is the ultimate parent corporation and does not continue the Award) on substantially similar terms or with substantially equivalent economic benefits (as determined by the Administrator) as Awards outstanding under the Plan immediately prior to the Change of Control event, (i) all outstanding Options and SARs shall become

fully vested and exercisable, whether or not then otherwise vested and exercisable; and (ii) any restrictions, including but not limited to the Restriction Period, Performance Period and/or performance criteria applicable to any outstanding Award other than Options or SARs shall be deemed to have been met, and such Awards shall become fully vested, earned and payable to the fullest extent of the original grant of the applicable Award (or, in the case of performance-based Awards the earning of which is based on attaining a target level of performance, such Awards shall be deemed earned at target).

(b) Further, in the event that an Award is substituted, assumed or continued as provided in Section 15(a) herein, the Award will nonetheless become vested (and, in the case of Options and SARs, exercisable) in full and any restrictions, including but not limited to the Restriction Period, Performance Period and/or performance criteria applicable to any outstanding Award other than Options or SARs shall be deemed to have been met, and such Awards shall become fully vested, earned and payable to the fullest extent of the original award (or, in the case of performance-based Awards the earning of which is based on attaining a target level of performance, such Awards shall be deemed earned at target), if the employment or service of the Participant is terminated within six months before (in which case vesting shall not occur until the effective date of the Change of Control) or one year (or such other period after a Change of Control as may be stated in a Participant's employment agreement, change in control agreement or similar agreement, if applicable) after the effective date of a Change of Control if such termination of employment or service (i) is by the Company not for Cause or (ii) if an Award Agreement so provides, is by the Participant for Good Reason. For clarification, for the purposes of this Section 15, the "Company" shall include any successor to the Company.

16. Withholding

The Company shall withhold all required local, state, federal, foreign and other taxes and any other amount required to be withheld by any governmental authority or law from any amount payable in cash with respect to an Award. Prior to the delivery or transfer of any certificate for shares or any other benefit conferred under the Plan, the Company shall require any Participant or other person to pay to the Company in cash the amount of any tax or other amount required by any governmental authority to be withheld and paid over by the Company to such authority for the account of such recipient. Notwithstanding the foregoing, the Administrator may in its discretion establish procedures to permit a recipient to satisfy such obligation in whole or in part, and any local, state, federal, foreign or other income tax obligations relating to such an Award, by electing (the "election") to have the Company withhold shares of Common Stock from the shares to which the recipient is otherwise entitled. The number of shares to be withheld shall have a Fair Market Value as of the date that the amount of tax to be withheld is determined as nearly equal as possible to (but not exceeding) the amount of such obligations being satisfied. Each election must be made in writing to the Administrator in accordance with election procedures established by the Administrator.

17. Amendment and Termination of the Plan and Awards

(a) *Amendment and Termination of Plan*: The Plan may be amended, altered, suspended and/or terminated at any time by the Board; provided, that (i) approval of an amendment to the Plan by the stockholders of the Company shall be required to the extent, if any, that stockholder approval of such amendment is required by Applicable Law; and (ii) except for adjustments made pursuant to Section 5(d) the Company may not, without obtaining stockholder approval, (A) amend the terms of outstanding Options or SARs to reduce the Option Price or Base Price of such outstanding Options or SARs; (B) exchange outstanding Options or SARs for cash, for Options or SARs with an Option Price or Base Price that is less than the Option Price or Base Price of the original Option or SAR, or for other equity awards at a time when the original Option or SAR has an Option Price or Base Price, as the case may be, above the Fair Market Value of the Common Stock; or (C) take other action with respect to Options or SARs that would be treated as a repricing under the rules of the principal stock exchange on which shares of the Common Stock are listed.

(b) *Amendment and Termination of Awards*: The Administrator may amend, alter, suspend and/or terminate any Award granted under the Plan, prospectively or retroactively, but (except as otherwise provided in Section 17(c)) such amendment, alteration, suspension or termination of an Award shall not, without the written consent of the recipient of an outstanding Award, materially adversely affect the rights of the recipient with respect to the Award.

(c) *Amendments to Comply with Applicable Law*: Notwithstanding Section 17(a) and Section 17(b) herein, the following provisions shall apply:

(i) The Administrator shall have unilateral authority to amend the Plan and any Award (without Participant consent) to the extent necessary to comply with Applicable Law or changes to Applicable Law (including but in no way limited to Code Section 409A, Code Section 422 and federal securities laws).

(ii) The Administrator shall have unilateral authority to make adjustments to the terms and conditions of Awards in recognition of unusual or nonrecurring events affecting the Company or any Affiliate, or the financial statements of the Company or any Affiliate, or of changes in Applicable Law, or accounting principles, if the Administrator determines that such adjustments are appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan or necessary or appropriate to comply with applicable accounting principles or Applicable Law.

18. Restrictions on Awards and Shares; Compliance with Applicable Law

(a) *General*: As a condition to the issuance and delivery of Common Stock hereunder, or the grant of any benefit pursuant to the Plan, the Company may require a Participant or other person at any time and from time to time to become a party to an Award Agreement, other agreement(s) restricting the transfer, purchase, repurchase and/or voting of shares of Common Stock of the Company, and any employment agreements, consulting agreements, noncompetition agreements, confidentiality agreements, nonsolicitation agreements, nondisparagement agreements or other agreements imposing such restrictions as may be required by the Company. In addition, without in any way limiting the effect of the foregoing, each Participant or other holder of shares issued under the Plan shall be permitted to transfer such shares only if such transfer is in accordance with the Plan, the Award Agreement, and any other applicable agreements and Applicable Law. The acquisition of shares of Common Stock under the Plan by a Participant or any other holder of shares shall be subject to, and conditioned upon, the agreement of the Participant or other holder of such shares to the restrictions described in the Plan, the Award Agreement and any other applicable agreements and Applicable Law.

(b) *Compliance with Applicable Laws, Rules and Regulations*: The Company may impose such restrictions on Awards, shares of Common Stock and any other benefits underlying Awards hereunder as it may deem advisable, including without limitation restrictions under the federal securities laws, the requirements of any stock exchange or similar organization and any blue sky, state or foreign securities or other laws applicable to such securities. Notwithstanding any other Plan provision to the contrary, the Company shall not be obligated to issue, deliver or transfer shares of Common Stock under the Plan, make any other distribution of benefits under the Plan, or take any other action, unless such delivery, distribution or action is in compliance with Applicable Law (including but not limited to the requirements of the Securities Act). The Company will be under no obligation to register shares of Common Stock or other securities with the Securities and Exchange Commission or to effect compliance

with the exemption, registration, qualification or listing requirements of any state securities laws, stock exchange or similar organization, and the Company will have no liability for any inability or failure to do so. The Company may cause a restrictive legend or legends to be placed on any certificate issued pursuant to an Award hereunder in such form as may be prescribed from time to time by Applicable Law or as may be advised by legal counsel.

19. No Right or Obligation of Continued Employment or Service or to Awards; Compliance with the Plan

Neither the Plan, an Award, an Award Agreement nor any other action related to the Plan shall confer upon a Participant any right to continue in the employ or service of the Company or an Affiliate as an Employee, Director or Independent Contractor, or to interfere in any way with the right of the Company or an Affiliate to terminate the Participant's employment or service at any time. Except as otherwise provided in the Plan, an Award Agreement or as may be determined by the Administrator, all rights of a Participant with respect to an Award shall terminate upon the termination of the Participant's employment or service. In addition, no person shall have any right to be granted an Award, and the Company shall have no obligation to treat Participants or Awards uniformly. By participating in the Plan, each Participant shall be deemed to have accepted all of the conditions of the Plan and the terms and conditions of any rules and regulations adopted by the Administrator and shall be fully bound thereby. Any Award granted hereunder is not intended to be compensation of a continuing or recurring nature, or part of a Participant's normal or expected compensation, and in no way represents any portion of a Participant's salary, compensation, or other remuneration for purposes of pension benefits, severance, redundancy, resignation or any other purpose.

20. General Provisions

(a) *Stockholder Rights*: Except as otherwise determined by the Administrator (and subject to the provisions of Section 9(d) regarding Restricted Awards), a Participant and his legal representative, legatees or distributees shall not be deemed to be the holder of any shares of Common Stock subject to an Award and shall not have any rights of a stockholder unless and until certificates for such shares have been issued and delivered to him or them under the Plan. A certificate or certificates for shares of Common Stock acquired upon exercise of an Option or SAR shall be issued in the name of the Participant or his beneficiary and distributed to the Participant or his beneficiary (or, in the case of uncertificated shares, other written notice of ownership in accordance with Applicable Law shall be provided) as soon as practicable following receipt of notice of exercise and, with respect to Options, payment of the Option Price (except as may otherwise be determined by the Company in the event of payment of the Option Price pursuant to Section 7(d)(ii)(C)). Except as otherwise provided in Section 9(d) regarding Restricted Stock Awards or otherwise determined by the Administrator, a certificate for any shares of Common Stock issuable pursuant to a Restricted Award, Performance Award, Phantom Stock Award or Other Stock-Based Award shall be issued in the name of the Participant or his beneficiary and distributed to the Participant or his beneficiary (or, in the case of uncertificated shares, other written notice of ownership in accordance with Applicable Law shall be provided) after the Award (or portion thereof) has vested and been earned.

(b) *Section 16(b) Compliance*: To the extent that any Participants in the Plan are subject to Section 16(b) of the Exchange Act, it is the general intention of the Company that transactions under the Plan shall comply with Rule 16b-3 under the Exchange Act and that the Plan shall be construed in favor of such Plan transactions meeting the requirements of Rule 16b-3 or any successor rules thereto. Notwithstanding anything in the Plan to the contrary, the Administrator, in its sole and absolute discretion, may bifurcate the Plan so as to restrict, limit or condition the use of any provision of the Plan to Participants who are officers or directors subject to Section 16 of the Exchange Act without so restricting, limiting or conditioning the Plan with respect to other Participants.

(c) *Code Section 162(m) Performance-Based Compensation*. To the extent to which Code Section 162(m) is applicable, the Company intends that compensation paid under the Plan to Covered Employees will, to the extent practicable, constitute "qualified performance-based compensation" within the meaning of Code Section 162(m), unless otherwise determined by the Administrator. Accordingly, Awards granted to Covered Employees which are intended to qualify for the performance-based exception under Code Section 162(m) shall be deemed to include any such additional terms, conditions, limitations and provisions as are necessary to comply with the performance-based compensation exemption of Code Section 162(m), unless the Administrator, in its discretion, determines otherwise.

(d) *Unfunded Plan; No Effect on Other Plans*:

(i) The Plan shall be unfunded, and the Company shall not be required to create a trust or segregate any assets that may at any time be represented by Awards under the Plan. The Plan shall not establish any fiduciary relationship between the Company and any Participant or other person. Neither a Participant nor any other person shall, by reason of the Plan, acquire any right in or title to any assets, funds or property of the Company or any Affiliate, including, without limitation, any specific funds, assets or other property which the Company or any Affiliate, in their discretion, may set aside in anticipation of a liability under the Plan. A Participant shall have only a contractual right to shares of Common Stock or other amounts, if any, payable under the Plan, unsecured by any assets of the Company or any Affiliate. Nothing contained in the Plan shall constitute a guarantee that the assets of such entities shall be sufficient to pay any benefits to any person.

(ii) The amount of any compensation deemed to be received by a Participant pursuant to an Award shall not constitute compensation with respect to which any other employee benefits of such Participant are determined, including, without limitation, benefits under any bonus, pension, profit sharing, life insurance or salary continuation plan, except as otherwise specifically provided by the terms of such plan or as may be determined by the Administrator.

(iii) The adoption of the Plan shall not affect any other stock incentive or other compensation plans in effect for the Company or any Affiliate, nor shall the Plan preclude the Company from establishing any other forms of stock incentive or other compensation for employees or service providers of the Company or any Affiliate.

(e) *Governing Law*: The Plan shall be governed by and construed in accordance with the laws of the State of Delaware, without regard to the conflict of laws provisions of any state, and in accordance with applicable federal laws of the United States.

(f) *Beneficiary Designation*: The Administrator may, in its discretion, permit a Participant to designate in writing a person or persons as beneficiary, which beneficiary shall be entitled to receive settlement of Awards (if any) to which the Participant is otherwise entitled in the event of death. In the absence of such designation by a Participant, and in the event of the Participant's death, the estate of the Participant shall be treated as beneficiary for purposes of the Plan, unless the Administrator determines otherwise. The Administrator shall have discretion to approve and interpret the form or forms of such beneficiary designation. A beneficiary, legal guardian, legal representative or other person claiming any rights pursuant to the Plan is subject to all terms and conditions of the Plan and any Award Agreement applicable to the Participant, except to the extent that the Plan and/or Award Agreement provide otherwise, and to any additional restrictions deemed necessary or appropriate by the Administrator.

(g) *Gender and Number*: Except where otherwise indicated by the context, words in any gender shall include any other gender, words in the singular shall include the plural and words in the plural shall include the singular.

(h) *Severability*: If any provision of the Plan shall be held illegal or invalid for any reason, such illegality or invalidity shall not affect the remaining parts of the Plan, and the Plan shall be construed and enforced as if the illegal or invalid provision had not been included.

(i) *Rules of Construction*: Headings are given to the sections of the Plan solely as a convenience to facilitate reference. The reference to any statute, regulation or other provision of law shall (unless the Administrator determines otherwise) be construed to refer to any amendment to or successor of such provision of law.

(j) *Successors and Assigns*: The Plan shall be binding upon the Company, its successors and assigns, and Participants, their executors, administrators and permitted transferees and beneficiaries.

(k) *Award Agreement:* The grant of any Award under the Plan shall be evidenced by an Award Agreement between the Company and the Participant. Such Award Agreement may state terms, conditions and restrictions applicable to the Award and any may state such other terms, conditions and restrictions, including but not limited to terms, conditions and restrictions applicable to shares of Common Stock (or other benefits) subject to an Award, as may be established by the Administrator.

(l) *Right of Offset:* Notwithstanding any other provision of the Plan or an Award Agreement, the Company may at any time (subject to any Code Section 409A considerations) reduce the amount of any payment or benefit otherwise payable to or on behalf of a Participant by the amount of any obligation of the Participant to or on behalf of the Company or an Affiliate that is or becomes due and payable.

(m) *Uncertified Shares*: Notwithstanding anything in the Plan to the contrary, to the extent the Plan provides for the issuance of stock certificates to reflect the issuance of shares of Common Stock, the issuance may, in the Company's discretion, be effected on a non-certificated basis, to the extent not prohibited by the Company's certificate of incorporation or bylaws or by Applicable Law (including but not limited to applicable state corporate law and the applicable rules of any stock exchange on which the Common Stock may be traded).

(n) *Income and Other Taxes:* Participants are solely responsible and liable for the satisfaction of all taxes and penalties that may arise in connection with Awards (including but not limited to any taxes arising under Code Section 409A), and the Company shall not have any obligation to indemnify or otherwise hold any Participant harmless from any or all of such taxes. The Company shall have no responsibility to take or refrain from taking any actions in order to achieve a certain tax result for a Participant or any other person.

(o) *Effect of Certain Changes in Status:* Notwithstanding the other terms of the Plan or an Award Agreement, the Administrator has sole discretion to determine (taking into account any Code Section 409A considerations), at the time of grant of an Award or at any time thereafter, the effect, if any, on Awards (including but not limited to modifying the vesting, exercisability and/or earning of Awards) granted to a Participant if the Participant's status as an Employee, Director or Independent Contractor changes, including but not limited to a change from full-time to part-time, or vice versa, or if other similar changes in the nature or scope of the Participant's employment or service occur.

(p) *Stockholder Approval:* The Plan is subject to approval by the stockholders of the Company, which approval must occur, if at all, within 12 months of the Effective Date of the Plan. Awards granted prior to such stockholder approval shall be conditioned upon and shall be effective only upon approval of the Plan by such stockholders on or before such date.

(q) *Deferrals:* The Administrator may permit or require a Participant to defer such Participant's receipt of the payment of cash or the delivery of shares of Common Stock that would otherwise be payable with respect to an Award. Any such deferral shall be subject to such terms and conditions as may be established by the Administrator and to any applicable Code Section 409A requirements.

(r) *Fractional Shares:* Except as otherwise provided in an Award Agreement or determined by the Administrator, (i) the total number of shares issuable pursuant to the exercise, vesting or earning of an Award shall be rounded down to the nearest whole share, and (ii) no fractional shares shall be issued. The Administrator may, in its discretion, determine that a fractional share shall be settled in cash.

(s) *Compliance with Recoupment, Ownership and Other Policies or Agreements:* Notwithstanding anything in the Plan to the contrary, the Administrator may, at any time, consistent with, but without limiting, the authority granted in Section 3(b) herein, in its discretion provide that an Award or benefits related to an Award shall be forfeited and/or recouped if the Participant, during employment or service or following termination of employment or service for any reason, engages in certain specified conduct, including but not limited to violation of policies of the Company or an Affiliate, breach of non-solicitation, noncompetition, confidentiality or other restrictive covenants, or other conduct by the Participant that is determined by the Administrator to be detrimental to the business or reputation of the Company or any Affiliate. In addition, without limiting the effect of the foregoing, as a condition to the grant of an Award or receipt or retention of shares of Common Stock, cash or any other benefit under the Plan, the Administrator may, at any time, require that a Participant agree to abide by any equity retention policy, stock ownership guidelines, compensation recovery policy and/or other policies adopted by the Company or an Affiliate, each as in effect from time to time and to the extent applicable to the Participant. Further, each Participant shall be subject to such compensation recovery, recoupment, forfeiture or other similar provisions as may apply under Applicable Law.

21. Compliance with Code Section 409A

Notwithstanding any other provision in the Plan or an Award Agreement to the contrary, if and to the extent that Code Section 409A is deemed to apply to the Plan or any Award, it is the general intention of the Company that the Plan and all such Awards shall, to the extent practicable, comply with, or be exempt from, Code Section 409A, and the Plan and any such Award Agreement shall, to the extent practicable, be construed in accordance therewith. Deferrals of shares or any other benefit issuable pursuant to an Award otherwise exempt from Code Section 409A in a manner that would cause Code Section 409A to apply shall not be permitted unless such deferrals are in compliance with, or exempt from, Code Section 409A. In the event that the Company (or a successor thereto) has any stock which is publicly traded on an established securities market or otherwise, distributions that are subject to Code Section 409A to any Participant who is a "specified employee" (as defined under Code Section 409A) upon a separation from service may only be made following the expiration of the six-month period after the date of separation from service (with such distributions to be made during the seventh month following separation of service), or, if earlier than the end of the six-month period, the date of death of the specified employee, or as otherwise permitted under Code Section 409A. For purposes of Code Section 409A, each installment payment provided under the Plan or an Award Agreement shall be treated as a separate payment. Without in any way limiting the effect of any of the foregoing, (i) in the event that Code Section 409A requires that any special terms, provisions or conditions be included in the Plan or

any Award Agreement, then such terms, provisions and conditions shall, to the extent practicable, be deemed to be made a part of the Plan or Award Agreement, as applicable, and (ii) terms used in the Plan or an Award Agreement shall be construed in accordance with Code Section 409A if and to the extent required. Further, in the event that the Plan or any Award shall be deemed not to comply with Code Section 409A, then neither the Company, the Administrator nor its or their designees or agents shall be liable to any Participant or other person for actions, decisions or determinations made in good faith.

[Signature Page To Follow]

IN WITNESS WHEREOF, this Catalyst Biosciences, Inc. 2015 Stock Incentive Plan (As Amended and Restated Effective October 14, 2015), is, by the authority of the Board of Directors of the Company, executed in behalf of the Company, the 14th day of October, 2015.

CATALYST BIOSCIENCES, INC.

By: /s/ Nassim Usman
Name: Nassim Usman
Title: President and Chief Executive Officer

ATTEST:

By: /s/ Fletcher Payne
Name: Fletcher Payne
Title: Chief Financial Officer

Exhibit 31.1

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

I, Nassim Usman, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: November 5, 2015

/s/ Nassim Usman, Ph.D.

Nassim Usman, Ph.D.
President and Chief Executive Officer
(*Principal Executive Officer)*

Exhibit 31.2

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

I, Fletcher Payne, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: November 5, 2015

/s/ Fletcher Payne
Fletcher Payne
Chief Financial Officer
(*Principal Financial and Accounting Officer)*

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of Catalyst Biosciences, Inc. (the "Company") for the period ended September 30, 2015 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Nassim Usman, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

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

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

Date: November 5, 2015

/s/ Nassim Usman, Ph.D.
Nassim Usman, Ph.D.
President and Chief Executive Officer
(*Principal Executive Officer*)

Exhibit 32.2

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

In connection with the Quarterly Report on Form 10-Q of Catalyst Biosciences, Inc. (the "Company") for the period ended September 30, 2015 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Fletcher Payne, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

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

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

Date: November 5, 2015

/s/ Fletcher Payne
Fletcher Payne
Chief Financial Officer
(*Principal Financial and Accounting Officer)*