UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

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

For the quarterly period ended March 31, 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: 001-36644

CALITHERA BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Delaware	**27-2366329**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

343 Oyster Point Blvd., Suite 200
South San Francisco, CA 94080
(Address of principal executive offices including zip code)

Registrant's telephone number, including area code: (650) 870-1000

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

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

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

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

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

As of April 30, 2015, the registrant had 17,946,393 shares of common stock, $0.0001 par value per share, outstanding.

Calithera Biosciences, Inc.

Quarterly Report on Form 10-Q

For the Quarter Ended March 31, 2015

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PART I. – FINANCIAL INFORMATION

Item 1. Financial Statements

Calithera Biosciences, Inc.
Condensed Balance Sheets
(In thousands, except per share amounts)

	March 31, 2015 (Unaudited)	December 31, 2014
Assets		
Current assets:		
Cash and cash equivalents	$ 73,877	$ 101,969
Short-term investments	14,705	-
Prepaid expenses and other current assets	1,728	1,894
Total current assets	90,310	103,863
Long-term investments	5,693	-
Restricted cash	46	46
Property and equipment, net	824	861
Total assets	$ 96,873	$ 104,770
Liabilities and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 559	$ 693
Accrued liabilities	2,962	3,428
Total current liabilities	3,521	4,121
Deferred rent	235	270
Other non-current liabilities	13	13
Total liabilities	3,769	4,404
Commitments and contingencies (Note 6)		
Stockholders' equity (deficit):		
Common stock, $0.0001 par value, 200,000 shares authorized as of March 31, 2015 (unaudited) and December 31, 2014; 17,946 and 17,943 shares issued and outstanding as of March 31, 2015 (unaudited) and December 31, 2014, respectively	2	2
Additional paid-in capital	152,820	152,218
Accumulated deficit	(59,712)	(51,854)
Accumulated other comprehensive loss	(6)	-
Total stockholders' deficit	93,104	100,366
Total liabilities and stockholders' deficit	$ 96,873	$ 104,770

See accompanying notes.

Calithera Biosciences, Inc.
Condensed Statements of Operations
(Unaudited)
(In thousands, except per share amounts)

	Three Months Ended March 31,	
	2015	2014
Operating expenses:		
Research and development	$ 5,630	$ 3,318
General and administrative	2,237	832
Total operating expenses	7,867	4,150
Loss from operations	(7,867)	(4,150)
Other income, net	9	1
Net loss	$ (7,858)	$ (4,149)
Net loss per share attributable to common stockholders, basic and diluted	$ (0.44)	$ (22.80)
Weighted average common shares used to compute net loss per share attributable to common stockholders, basic and diluted	17,946	182

See accompanying notes.

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

	Three Months Ended March 31,	
	2015	**2014**
Net loss	$ (7,858)	$ (4,149)
Other comprehensive loss:		
Net unrealized losses on available-for-sale securities	(6)	-
Total comprehensive loss	$ (7,864)	$ (4,149)

See accompanying notes.

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

	Three Months Ended March 31,	
	2015	**2014**
Cash Flows From Operating Activities		
Net loss	$ (7,858)	$ (4,149)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	109	73
Amortization of premium on investments	2	-
Stock-based compensation	595	78
(Gain) loss on disposal of property and equipment	(8)	-
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	166	(323)
Accounts payable	(134)	24
Accrued liabilities	(466)	(291)
Deferred rent, non-current	(35)	66
Net cash used in operating activities	(7,629)	(4,522)
Cash Flows From Investing Activities		
Purchases of investments	(20,406)	-
Purchase of property and equipment	(64)	(60)
Net cash used in investing activities	(20,470)	(60)
Cash Flows From Financing Activities		
Proceeds from stock option exercises	7	17
Net cash provided by financing activities	7	17
Net decrease in cash and cash equivalents	(28,092)	(4,565)
Cash and cash equivalents at beginning of period	101,969	33,820
Cash and cash equivalents at end of period	$ 73,877	$ 29,255

See accompanying notes.

1. Organization and Basis of Presentation

Calithera Biosciences, Inc. (the "Company") was incorporated in the State of Delaware on March 9, 2010. The Company is a clinical-stage biopharmaceutical company focused on discovering and developing novel small molecule drugs directed against tumor metabolism and tumor immunology targets for the treatment of cancer. The Company's principal operations are based in South San Francisco, California, and it operates in one segment.

Initial Public Offering

In October 2014, the Company completed an initial public offering ("IPO") of its common stock. In connection with its IPO, the Company issued and sold 8,000,000 shares of its common stock, at a price to the public of $10.00 per share. As a result of the IPO, the Company received $71.6 million in net proceeds, after deducting underwriting discounts and commissions of $5.6 million and offering expenses of $2.8 million paid by the Company. At the closing of the IPO, 9,592,042 shares of outstanding convertible preferred stock were automatically converted into 9,592,042 shares of common stock. Following the IPO, there were no shares of preferred stock outstanding. In connection with the IPO, the Company amended and restated its Amended and Restated Certificate of Incorporation to change the authorized capital stock to 200,000,000 shares designated as common stock and 10,000,000 shares designated as preferred stock, all with a par value of $0.0001 per share.

2. Summary of Significant Accounting Policies

Unaudited Interim Financial Information

The interim condensed balance sheet as of March 31, 2015, and the statements of operations, comprehensive loss, and cash flows for the three months ended March 31, 2015 and 2014 are unaudited. The unaudited interim financial statements have been prepared on the same basis as the annual financial statements and reflect, in the opinion of management, all adjustments of a normal and recurring nature that are necessary for the fair presentation of the Company's condensed financial statements included in this report. The financial data and the other information disclosed in these notes to the financial statements related to the three-month periods are also unaudited. The results of operations for the three months ended March 31, 2015 are not necessarily indicative of the results to be expected for the year ending December 31, 2015 or for any other future annual or interim period. The balance sheet as of December 31, 2014 included herein was derived from the audited financial statements as of that date. These financial statements should be read in conjunction with the Company's audited financial statements included in the Company's Form 10-K as filed with the Securities and Exchange Commission ("SEC").

Use of Estimates

The accompanying financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, management evaluates its estimates, including those related to clinical trial accrued liabilities, fair value of common stock, income taxes, and stock-based compensation. Management bases its estimates on historical experience and on various other market-specific and relevant assumptions that management believes to be reasonable under the circumstances. Actual results could differ from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments with original maturities of three months or less at the date of purchase to be cash equivalents.

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 in 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 judged to be other than temporary, if any, on available-for-sale securities are included in other income, net. The cost of securities sold is based on the specific-identification method. Interest on marketable securities is included in other income, net.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash, cash equivalents, investments and restricted cash. The Company invests in a variety of financial instruments and, by its policy, limits these financial instruments to high credit quality securities issued by the U.S. government, U.S. government-sponsored agencies and highly rated banks and corporations, subject to certain concentration limits. The Company's cash, cash equivalents, investments and restricted cash are held by financial institutions in the United States that management believes are of high credit quality. Amounts on deposit may at times exceed federally insured limits.

Accrued Research and Development Costs

The Company records accrued liabilities for estimated costs of research and development activities conducted by third-party service providers, which include the conduct of preclinical and clinical studies, and contract manufacturing activities. The Company records the estimated costs of research and development activities based upon the estimated amount of services provided but not yet invoiced, and include these costs in accrued liabilities in the balance sheets and within research and development expense in the statements of operations. These costs are a significant component of the Company's research and development expenses. The Company accrues for these costs based on factors such as estimates of the work completed and in accordance with agreements established with its third-party service providers under the service agreements. The Company makes significant judgments and estimates in determining the accrued liabilities balance in each reporting period. As actual costs become known, the Company adjusts its accrued liabilities. The Company has not experienced any material differences between accrued costs and actual costs incurred. However, the status and timing of actual services performed, number of patients enrolled, and the rate of patient enrollments may vary from the Company's estimates, resulting in adjustments to expense in future periods. Changes in these estimates that result in material changes to the Company's accruals could materially affect the Company's results of operations.

Net Loss per Share Attributable to Common Stockholders

Basic net loss per share attributable to common stockholders is calculated by dividing the net loss attributable to common stockholders by the weighted average number of shares of common stock outstanding during the period without consideration of common stock equivalents. Since the Company was in a loss position for all periods presented, basic net loss per share attributable to common stockholders is the same as diluted net loss per share attributable to common stockholders for all periods as the inclusion of all potential common shares outstanding would have been anti-dilutive.

Recent Accounting Pronouncements

In August 2014, the FASB issued ASU No. 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*. ASU 2014-15 requires management to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. In doing so, companies will have reduced diversity in the timing and content of footnote disclosures than under today's guidance. ASU 2014-15 is effective for the Company in the first quarter of 2016 with early adoption permitted. Management is currently assessing the impact the adoption of ASU 2014-15 will have on the financial statements.

3. Fair Value Measurements

Fair value accounting is applied for all financial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually). Financial instruments include cash and cash equivalents, short-term investments, accounts payable and accrued liabilities that approximate fair value due to their relatively short maturities.

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—Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date;

Level 2—Inputs are observable, unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities; and

Level 3—Unobservable inputs that are significant to the measurement of the fair value of the assets or liabilities that are supported by little or no market data.

A financial instrument's categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. Where quoted prices are available in an active market, securities are classified as Level 1. The Company classifies money market funds as Level 1. When quoted market prices are not available for the specific security, then the Company estimates fair value by using quoted prices for identical or similar instruments in markets that are not active and model-based valuation techniques for which all significant inputs are observable in the market or can be corroborated by observable market data for substantially the full term of the assets. Where applicable, these models project future cash flows and discount the future amounts to a present value using market-based observable inputs obtained from various third party data providers, including but not limited to, benchmark yields, interest rate curves, reported trades, broker/dealer quotes and market reference data. The Company classifies its corporate notes and U.S. government agency securities 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 between Level 1 and Level 2 during the periods presented.

The following table sets forth the fair value of our financial assets and liabilities, allocated into Level 1, Level 2 and Level 3, that was measured on a recurring basis (in thousands):

	March 31, 2015			
	Level 1	Level 2	Level 3	Total
Financial Assets:				
Money market funds	$ 70,474	$ -	$ -	$ 70,474
Corporate notes	-	13,028	-	13,028
U.S. government agency securities	-	10,819	-	10,819
Total financial assets	$ 70,474	$ 23,847	$ -	$ 94,321

	December 31, 2014			
	Level 1	Level 2	Level 3	Total
Financial Assets:				
Money market funds	$ 102,015	$ -	$ -	$ 102,015
Total financial assets	$ 102,015	$ -	$ -	$ 102,015

As of March 31, 2015 and December 31, 2014, the Company had $46,000 in money market funds that are included in restricted cash on the balance sheets.

4. Financial Instruments

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

	March 31, 2015				December 31, 2014			
	Cost	Unrealized Gain	Unrealized (Loss)	Estimated Fair Value	Cost	Unrealized Gain	Unrealized (Loss)	Estimated Fair Value
Money market funds	$ 70,474	$ -	$ -	$ 70,474	$ 102,015	$ -	$ -	$ 102,015
Corporate notes	13,034	1	(7)	13,028	-	-	-	-
U.S. government agency securities	10,819	1	(1)	10,819	-	-	-	-
	$ 94,327	$ 2	$ (8)	$ 94,321	$ 102,015	$ -	$ -	$ 102,015
Classified as:								
Cash equivalents				$ 73,923				$ 102,015
Short-term investments				14,705				-
Long-term investments				5,693				-
Total cash equivalents and investments				$ 94,321				$ 102,015

At March 31, 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. Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	March 31, 2015	December 31, 2014
Accrued bonus and payroll expenses	$ 911	$ 1,476
Accrued professional and consulting services	169	490
Accrued clinical and manufacturing expenses	1,059	1,029
Accrued licensing fee	600	-
Other	223	433
Total accrued liabilities	$ 2,962	$ 3,428

6. Commitments and Contingencies

In October 2014, the Company received an invoice of approximately $1.3 million relating to a contingent amount associated with a terminated license agreement, incurred as a result of the closing of its IPO in October 2014. The Company believes that the invoice amount is substantially in excess of the amount actually owed pursuant to the agreement and has initiated discussions with the third party to resolve the matter. The Company does not believe that the ultimate resolution of this matter will be material to the Company's results of operations, financial condition or cash flows.

7. Stock Based Compensation

A summary of stock option activity is as follows (in thousands, except share data and contractual term amounts):

	Options Outstanding			
	Number of Shares Underlying Outstanding Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Value Intrinsic
Outstanding — December 31, 2014	1,210,920	$ 3.44		$ 20,292
Options granted	620,099	$ 16.87		
Options exercised	(3,008)	$ 1.95		
Options canceled	(12,287)	$ 5.01		
Outstanding — March 31, 2015	1,815,724	$ 8.02	9.10	$ 15,553

Total stock-based compensation expense related to the Company's 2010 Equity Incentive Plan, 2014 Equity Incentive Plan and the 2014 Employee Stock Purchase Plan was as follows (in thousands):

	Three Months Ended March 31,	
	2015	2014
Research and development	$ 270	$ 48
General and administrative	325	30
Total stock-based compensation	$ 595	$ 78

8. Net Loss per Share Attributable to Common Stockholders

Since the Company was in a loss position for all periods presented, basic net loss per share attributable to common stockholders is the same as diluted net loss per share attributable to common stockholders for all periods as the inclusion of all potential common shares outstanding would have been anti-dilutive.

Potentially dilutive securities that were not included in the diluted per share attributable to common stockholders calculations because they would be anti-dilutive were as follows (in thousands):

	March 31,	
	2015	2014
Convertible preferred stock	-	7,689
Options to purchase common stock	1,816	880
Common stock subject to repurchase	-	1
Total	1,816	8,570

9. Licensing Agreements

TransTech License Agreement

In March 2015, the Company entered into a License and Research agreement with High Point Pharmaceuticals, LLC and TransTech Pharma LLC, or collectively TransTech, under which the Company obtained an exclusive, worldwide license to develop and commercialize TransTech's hexokinase II inhibitors (TransTech License Agreement). Under the terms of the TransTech License Agreement, the Company will pay TransTech an initial license fee of $0.6 million, and potential development and regulatory milestone payments totaling up to $30.5 million for the first licensed product. TransTech is eligible for an additional $77.0 million in potential sales-based milestones, as well as royalty payments, at mid-single digit royalty rates, based on tiered sales of the first commercialized licensed product. If the Company develops additional licensed products, after achieving regulatory approval of the first licensed product, the Company would owe additional regulatory milestone payments and additional royalty payments based on sales of such additional licensed products. The Company will be responsible for the worldwide development and commercialization of the licensed products, at its cost. For the three months ended March 31, 2015, the Company recognized expense related to its licensing arrangement with TransTech of $0.6 million in research and development expense in the statement of operations.

Symbioscience License Agreement

In December 2014, the Company entered into an exclusive license agreement with Mars, Inc., by and through its Mars Symbioscience division, or Symbioscience, under which the Company has been granted the exclusive, worldwide license rights to develop and commercialize Symbioscience's portfolio of arginase inhibitors for use in human healthcare (Symbioscience License Agreement). Under the terms of the Symbioscience License Agreement, the Company paid Symbioscience an upfront license fee of $0.3 million, which was recorded as research and development expense in 2014. The Company may make future payments of up to $24.4 million contingent upon attainment of various development and regulatory milestones and $95.0 million contingent upon attainment of various sales milestones. Additionally, the Company will pay royalty on sales of the licensed product, if such product sales are ever achieved. If the Company develops additional licensed products, after achieving regulatory approval of the first licensed product, the Company would owe additional regulatory milestone payments and additional royalty payments based on sales of such additional licensed products.

10. Related Party Transactions

The spouse of one of the Company's executive officers was a consultant who provided accounting services for the Company in 2014. For the three months ended March 31, 2015 and 2014, the Company recognized expense of $nil and $45,000, respectively, for consulting services within the general and administrative expense in the statements of operations. As of March 31, 2015 and December 31, 2014, the Company had an outstanding liability to the spouse of nil.

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

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our unaudited condensed financial statements and related notes included in Part I, Item 1 of this report. This discussion and other parts of this report contain forward-looking statements that involve risks and uncertainties, such as statements of our plans, objectives, expectations and intentions. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section of this report entitled "Risk factors."

Forward-Looking Statements

This discussion contains certain 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. 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 pharmaceutical company focused on discovering and developing novel small molecule drugs directed against tumor metabolism and tumor immunology targets for the treatment of cancer. Tumor metabolism and tumor immunology have emerged as promising new fields for cancer drug discovery, and recent clinical successes with therapeutic agents in each field have demonstrated the potential to create fundamentally new therapies for cancer patients. Our lead product candidate, CB-839, is an internally discovered, first-in-class inhibitor of glutaminase, a critical enzyme in tumor metabolism. We are currently evaluating CB-839 in three Phase 1 clinical trials in solid and hematological tumors. Our lead preclinical program in tumor immunology is directed at developing inhibitors of the enzyme arginase and may provide a first-in-class therapeutic agent for this novel target. We also have a preclinical program in tumor metabolism which seeks to develop inhibitors of the enzyme hexokinase II, the first step in the breakdown of glucose, an essential nutrient in many cancer cells. Our ongoing research efforts are focused on discovering additional product candidates against novel tumor metabolism and immunology targets.

Recent Developments

In April 2015, preclinical findings were presented at the American Association of Cancer Research annual meeting (AACR), for our lead tumor metabolism drug candidate CB-839. This data included: the addition of two biomarkers; further evidence supporting synergies with approved agents; and, a reiteration of preclinical single agent activity. Specifically, we and our collaborators presented six abstracts at AACR highlighting that CB-839 is synergistic with several targeted small molecule inhibitors, and further that we have identified potential biomarkers that may have utility in selecting patients who would most benefit from CB-839 therapy.

The biomarker data presented showed that KRAS and EGFR mutations correlate with enhanced sensitivity of CB-839 in non-small cell lung cancer (NSCLC) cell lines. Of significance, KRAS and EGFR mutational status is determined in NSCLC non-small lung cancer patients at diagnosis and effects treatment choices for the patients. KRAS mutant NSCLC tumors comprise approximately 25% of lung adenocarcinoma and EGFR mutations occur in about 20% of the same population; they are non-overlapping, therefore together they make up close to half of the adenocarcinoma population.

We also presented data expanding on previously noted preclinical synergic activity of CB-839 with other anti-cancer agents. Data presented demonstrated that signaling through mTOR is down regulated by CB-839, highlighting a relationship between signal transduction pathways and cancer metabolism. This relationship supports data on why CB-839 synergizes with the mTOR inhibitor everolimus in renal clear cell carcinoma lines. In addition, we showed CB-839 has synergistic activity with the MEK inhibitor selumetinib in KRAS mutant lung cancer cell lines both in vitro and in vivo, and with the EGFR inhibitor erlotinib in EGFR mutant lung cancer cell lines as well as in erlotinib-resistant EGFR mutant animal models lacking the T790M mutation. Further, our collaborators showed CB-839 induces double stranded breaks in VHL deficient renal cell carcinoma cells and that PARP (Poly ADP-ribose polymerase) inhibitors synergize with CB-839 in these cells.

Demonstrating effective drug combinations without overlapping toxicity is critical in oncology today, as the vast majority of malignancies are currently treated with combo therapy. This preclinical work further directs us towards a rational pathway forward for CB-839.

Critical Accounting Policies and Estimates

There have been no material changes in our critical accounting policies during the three months ended March 31, 2015, as compared to those disclosed in the *Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates"* in our Form 10-K dated December 31, 2014, filed with the SEC.

Financial Overview

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;
- expenses incurred under agreements with clinical trial sites that conduct research and development activities on our behalf;
- laboratory and vendor expenses related to the execution of preclinical studies and clinical trials;
- contract manufacturing expenses, primarily for the production of clinical supplies; 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 largest component of our total operating expenses has historically been our investment in research and development activities including the clinical development of our product candidates. We allocate to research and development expenses the salaries, benefits, stock-based compensation expense, and indirect costs of our clinical and preclinical programs on a program-specific basis, and we include these costs in the program-specific expenses. The following table shows our research and development expenses for the three months ended March 31, 2015 and 2014:

	Three Months Ended March 31,	
	2015	2014
	(in thousands)	
Development candidate:		
CB-839	$ 3,493	$ 2,797
Preclinical and research:		
Arginase Inhibitors	1,419	87
Other preclinical and research	718	434
Total preclinical and research	2,137	521
Total Research and Development	$ 5,630	$ 3,318

We expect our research and development expenses will increase in the future as we advance our product candidates into and through clinical trials, pursue regulatory approval of our product candidates, which will require a significant investment in contract manufacturing and inventory build-up related costs. We continue to evaluate opportunities to acquire or in-license other product candidates and technologies, which may result in higher research and development expenses due to license fee payments.

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 our product candidates 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 and completion costs of 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.

General and Administrative Expenses

General and administrative expenses consist of personnel costs, allocated expenses and other expenses for outside professional services, including legal, audit and accounting services. Personnel costs consist of salaries, benefits and stock-based compensation. Allocated expenses consist of facilities and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, depreciation and amortization expense and other supplies. We expect to incur additional expenses as a public company, including expenses related to compliance with the rules and regulations of the SEC, and those of the NASDAQ Global Market on which our securities are traded, additional insurance expenses, investor relations activities and other administration and professional services.

Results of Operations

Comparison of the Three Months Ended March 31, 2015 and 2014

	Three Months Ended March 31,		Change	
	2015	2014	$	%
	(in thousands, except percentages)			
Operating expenses:				
Research and development	$ 5,630	$ 3,318	$ 2,312	70%
General and administrative	2,237	832	1,405	169%
Total operating expenses	7,867	4,150	3,717	90%
Loss from operations	(7,867)	(4,150)	(3,717)	90%
Other income	9	1	8	800%
Net loss	$ (7,858)	$ (4,149)	$ (3,709)	89%

Research and Development. Research and development expenses increased $2.3 million, or 70%, from $3.3 million for the three months ended March 31, 2014 to $5.6 million for the three months ended March 31, 2015. The increase of $2.3 million was due to an increase of $0.8 million in personnel-related costs primarily due to higher headcount, salary increases and stock-based compensation expense, an increase of $0.6 million related to our licensing arrangement for the hexokinase II inhibitor program, and an increase of $0.9 million primarily related to clinical and manufacturing expenses for our CB-839 Phase I clinical trial.

General and Administrative. General and administrative expenses increased $1.4 million, or 169%, from $0.8 million for the three months ended March 31, 2014 to $2.2 million for the three months ended March 31, 2015. The increase of $1.4 million was due to an increase of $0.7 million in personnel-related costs as a result of higher headcount, salary increases and stock-based compensation expense and an increase of $0.7 million in professional services, primarily related to audit, legal and insurance costs associated with operating as a public company.

Liquidity and Capital Resources

As of March 31, 2015, we had cash, cash equivalents and investments totaling $94.3 million. Our operations have been financed by net proceeds from the sale of shares of our preferred stock and our initial public offering in October 2014.

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

We plan to continue to fund our operations and capital funding needs through equity and/or debt financing. We may also consider collaborations or selectively partnering for clinical development and commercialization. The sale of additional equity would result in additional dilution to our stockholders. The incurrence of debt financing would result in debt service obligations and the instruments governing such debt could provide for operating and financing covenants that would restrict our operations. If we are not able to secure adequate additional funding we may be forced to 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 harm our business, results of operations and future prospects.

Cash Flows

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

	Three Months Ended March 31,	
	2015	2014
	(in thousands)	
Cash used in operating activities	$ (7,629)	$ (4,522)
Cash used in investing activities	$ (20,470)	$ (60)
Cash provided by financing activities	$ 7	$ 17

Cash Flows from Operating Activities

Cash used in operating activities for the three months ended March 31, 2015 was $7.6 million. Our net loss of $7.9 million was offset in part by non-cash charges of $0.1 million for depreciation and amortization and $0.6 million of stock-based compensation. The change in operating assets and liabilities of $0.5 million was primarily due to a $0.6 million decrease in accounts payable and accrued liabilities, partially offset by a decrease of $0.2 million in prepaid expenses and other current assets, primarily related to the timing of payments for our clinical trials and manufacturing activities.

Cash used in operating activities for the three months ended March 31, 2014 was $4.5 million. Our net loss of $4.1 million was offset in part by non-cash charges of $0.1 million for depreciation and amortization and $0.1 million of stock-based compensation. The change in operating assets and liabilities was primarily due to $0.3 million increase in prepaid and expenses and other current assets related to an advance payment for clinical trial activities and a $0.3 million decrease in accounts payable and accrued liabilities.

Cash Flows from Investing Activities

Cash used in investing activities was $20.5 million for the three months ended March 31, 2015 and was related to the purchase of short- and long-term investments of $20.4 million and purchase of property and equipment of $0.1 million.

Cash used in investing activities was $60,000 for the three months ended March 31, 2014 and was related to the purchase of property and equipment.

Cash Flows from Financing Activities

Cash provided by financing activities for the three months ended March 31, 2015 and 2014 was $7,000 and $17,000, respectively, related to the issuance of common stock upon the exercise of stock options.

We expect that our existing cash, cash equivalents and investments will be sufficient to enable us to meet our operating plan for at least the next 12 months. However, our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary materially.

We have based our projections of operating capital requirements on assumptions that may prove to be incorrect and we may use all of our available capital resources sooner than we expect. Because of the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical products, we are unable to estimate the exact amount of our operating capital requirements. Our future funding requirements will depend on many factors, including, but not limited to:

- the timing and costs of our planned clinical trials for our product candidates;
- the timing and costs of our planned preclinical studies of our product candidates;
- our success in establishing and scaling commercial manufacturing capabilities;
- the number and characteristics of product candidates that we pursue;
- the outcome, timing and costs of seeking regulatory approvals;
- subject to receipt of regulatory approval, revenue received from commercial sales of our product candidates;
- the terms and timing of any future collaborations, licensing, consulting or other arrangements that we may establish;
- the amount and timing of any payments we may be required to make in connection with the licensing, filing, prosecution, maintenance, defense and enforcement of any patents or patent applications or other intellectual property rights; and
- the extent to which we in-license or acquire other products and technologies.

Contractual Obligations and Other Commitments

There have been no material changes outside the ordinary course of our business to the contractual obligations during the three months ended March 31, 2015, as compared to those disclosed in our Form 10-K.

Off-Balance Sheet Arrangements

During 2014 and the three months ended March 31, 2015, we did not have any off balance sheet arrangements.

Recent Accounting Pronouncements

In August 2014, the FASB issued ASU No. 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*. ASU 2014-15 requires management to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. In doing so, companies will have reduced diversity in the timing and content of footnote disclosures than under today's guidance. ASU 2014-15 is effective for the Company in the first quarter of 2016 with early adoption permitted. Management is currently assessing the impact the adoption of ASU 2014-15 will have on the financial statements.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate sensitivities. Our investment policy allows us to maintain a portfolio of cash equivalents and investments in a variety of high credit quality securities issued by the U.S. government, U.S. government-sponsored agencies and highly rated banks and corporations, subject to certain concentration limits. Our investment policy prohibits us from holding auction rate securities or derivative financial instruments. As of March 31, 2015, we had cash, cash equivalents and investments of $94.3 million. A portion of our investments may be subject to interest rate risk and could fall in value if market interest rates increase. However, we believe that our exposure to interest rate risk is not significant as the majority of our investments are short-term in duration and a 1% change in interest rates would not have a significant impact on the total value of our portfolio. We actively monitor changes in interest rates. We had no outstanding debt as of March 31, 2015.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures.

Our management, with the participation of our President and Chief Executive Officer and our Chief Financial Officer, have evaluated our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) prior to the filing of this quarterly report. Based on that evaluation, our President and Chief Executive Officer and our Chief Financial Officer have concluded that, as of the end of the period covered by this quarterly report, our disclosure controls and procedures were effective at a reasonable assurance level.

Changes in Internal Control Over Financial Reporting.

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the period covered by this quarterly report that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs.

PART II. – OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we may become involved in legal proceedings relating to claims arising from the ordinary course of business. Our management believes that there are currently no claims or actions pending against us, the ultimate disposition of which could have a material adverse effect on our results of operations, financial condition or cash flows.

Item 1A. Risk Factors

You should carefully consider the following risk factors, in addition to the other information contained in this report on Form 10-Q, including the section of this report titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes. If any of the events described in the following risk factors and the risks described elsewhere in this report occurs, our business, operating results and financial condition could be seriously harmed. This report on Form 10-Q also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of factors that are described below and elsewhere in this report. The risks relating to our business set forth in our Annual Report on Form 10-K, filed with the SEC, are set forth below and are unchanged substantively as of March 31, 2015, except for those risks designated by an asterisk (*).

Risks Related to Our Financial Position and Need For Additional Capital

We have incurred significant operating losses since our inception and anticipate that we will continue to incur substantial operating losses for the foreseeable future. We may never achieve or maintain profitability.*

Since our inception, we have incurred significant operating losses. Our net loss was $21.7 million and $7.9 million for 2014 and the three months ended March 31, 2015, respectively. As of March 31, 2015, we had an accumulated deficit of $59.7 million. To date, we have financed our operations primarily through private placements of our preferred stock and our initial public offering in October 2014. We have devoted substantially all of our financial resources and efforts to research and development. We began Phase 1 clinical trials on our lead product candidate, CB-839, in early 2014 and expect that it will be many years, if ever, before we receive regulatory approval and have a product candidate ready for commercialization. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. Our net losses may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase substantially if and as we:

- advance further into clinical trials our existing clinical product candidate, CB-839, a glutaminase inhibitor for the treatment of solid and hematological tumors;
- continue the preclinical development of our arginase and hexokinase II inhibitor programs and advance candidates into clinical trials;
- identify additional product candidates and advance them into preclinical development;
- seek marketing approvals for our product candidates that successfully complete clinical trials;
- establish a sales, marketing and distribution infrastructure to commercialize any product candidates for which we obtain marketing approval;
- maintain, expand and protect our intellectual property portfolio;
- hire additional clinical, regulatory and scientific personnel;
- add operational, financial and management information systems and personnel, including personnel to support product development; and
- acquire or in-license other product candidates and technologies.

To become and remain profitable, we must develop and eventually commercialize one or more products with significant market potential. This will require us to be successful in a range of challenging activities, including completing preclinical studies and clinical trials of our product candidates, obtaining marketing approval for these product candidates, manufacturing, marketing and selling those product candidates for which we may obtain marketing approval, and satisfying any post-marketing requirements. We may never succeed in these activities and, even if we do, may never generate revenue that is significant or large enough to achieve profitability. We are currently only in Phase 1 clinical trials for CB-839 and in preclinical studies for our arginase and hexokinase II inhibitor programs. Our failure to become and remain profitable would decrease the value of the company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment.

We will need substantial additional funding. If we are unable to raise capital when needed, we would be forced to delay, reduce or eliminate our product development programs or commercialization efforts.*

We expect our expenses to increase in connection with our ongoing activities, particularly as we continue the research and development of, continue and initiate clinical trials of and seek marketing approval for our product candidates, specifically CB-839 and as we become obligated to make milestone payments pursuant to our outstanding license agreements. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution of the approved product.

Our future capital requirements will depend on many factors, including:

- the scope, progress, results and costs of drug discovery, preclinical development, laboratory testing and clinical trials for our product candidates, in particular CB-839;
- the costs, timing and outcome of any regulatory review of our product candidate, CB-839;
- the cost of our arginase and hexokinase II inhibitor programs, and any other product programs we pursue;
- the costs and timing of commercialization activities, including manufacturing, marketing, sales and distribution, for any product candidates that receive marketing approval;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- our ability to establish and maintain collaborations on favorable terms, if at all; and
- the extent to which we acquire or in-license other product candidates and technologies.

Identifying potential product candidates and conducting preclinical studies and clinical trials are time consuming, expensive and uncertain processes that take years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales for any of our current or future product candidates. In addition, our product candidates, if approved, may not achieve commercial success. Our commercial revenue, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if at all.

Accordingly, we will need substantial additional funding in connection with our continuing operations and to achieve our goals. As of March 31, 2015, we had cash, cash equivalents and investments of $94.3 million. We expect that our existing cash and cash equivalents will be sufficient to enable us to meet our current operating plan for at least the next 12 months. However, our existing cash, cash equivalents and investments may prove to be insufficient for these activities. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate our research and development programs or future commercialization efforts. Adequate additional financing may not be available to us on acceptable terms, or at all. In addition, we may seek additional financing due to favorable market conditions or strategic considerations, even if we believe we have sufficient funds for our operating plans.

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

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our cash needs through a combination of equity and debt financings, as well as entering into collaborations, strategic alliances and licensing arrangements. We do not currently have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing, if available, 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, and may be secured by all or a portion of our assets. If we raise funds by entering into collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or through collaborations, strategic alliances or licensing arrangements when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Our short operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

We were founded in March 2010 and our operations to date have been limited to organizing and staffing our company, business planning, raising capital, developing our technology, identifying potential product candidates, undertaking preclinical studies and commencing Phase 1 clinical trials of our product candidate. We have one product candidate in Phase 1 clinical trials, and all of our other programs are in research and preclinical development. We have not yet demonstrated our ability to successfully complete any clinical trials, including large-scale, pivotal clinical trials required for regulatory approval of our product candidates, obtain marketing approvals, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful commercialization. Typically, it takes many years to develop one new product from the time it is discovered to when it is commercially available. Consequently, any predictions made about our future success or viability may not be as accurate as they could be if we had a longer operating history or if we had product candidates in advanced clinical trials.

In addition, as a new business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors that may alter or delay our plans. We will need to transition from a company with a research focus to a company capable of supporting development activities and, if a product candidate is approved, a company with commercial activities. We may not be successful in any step in such a transition.

Risks Related to Drug Discovery, Development and Commercialization

Our approach to the discovery and development of product candidates that target tumor metabolism and tumor immunology is unproven and may never lead to marketable products.

Our scientific approach focuses on using our understanding of cellular metabolic pathways and the role of glutaminase and hexokinase in these pathways, as well as the role of arginase in the anti-tumor immune response, to identify molecules that are potentially promising as therapies for cancer indications. Any product candidates we develop may not effectively modulate metabolic or immunology pathways. The scientific evidence to support the feasibility of developing product candidates based on inhibiting tumor metabolism or impacting the anti-tumor immune response are both preliminary and limited. Although preclinical studies suggest that inhibiting glutaminase and hexokinase can suppress the growth of certain cancer cells, to date no company has translated this mechanism into a drug that has received marketing approval. Even if we are able to develop a product candidate in preclinical studies, we may not succeed in demonstrating the safety and efficacy of the product candidate in human clinical trials. Our expertise in cellular metabolic pathways, the role of glutaminase and hexokinase in these pathways, and the role of arginase in the anti-tumor immune response may not result in the discovery and development of commercially viable products to treat cancer.

We are very early in our development efforts, which may not be successful.

We have invested a significant portion of our efforts and financial resources in the identification of our most advanced product candidate, CB-839, which is being evaluated in three Phase 1 clinical trials. Our arginase inhibitor and hexokinase II inhibitor programs are in preclinical development. Because of the early stage of our development efforts and our unproven and novel approach to discovery and development of product candidates, we do not have a clearly defined clinical development path. It is also too early in our development efforts to determine whether our product candidates will demonstrate single-agent activity or will be developed for use in combination with other approved therapies, or both. As a result, the timing and costs of the regulatory paths we will follow and marketing approvals remain uncertain. Our ability to generate product revenue, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of CB-839. The success of CB-839, our arginase and hexokinase II inhibitor programs and any other product candidates we may develop will depend on many factors, including the following:

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

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

We may not be successful in our efforts to identify or discover potential product candidates.

Our drug discovery efforts may not be successful in identifying compounds that are useful in treating cancer. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development for a number of reasons. In particular, our research methodology used may not be successful in identifying compounds with sufficient potency or bioavailability to be potential product candidates. In addition, our potential product candidates may, on further study, be shown to have harmful side effects or other negative characteristics.

Research programs to identify new product candidates require substantial technical, financial and human resources. We may choose to focus our efforts and resources on potential product candidates that ultimately prove to be unsuccessful. If we are unable to identify suitable compounds for preclinical and clinical development, we will not be able to generate product revenue, which would harm our financial position and adversely impact our stock price.

If clinical trials of our product candidates fail to demonstrate safety and efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.

Before obtaining marketing approval from regulatory authorities for the sale of our product candidates, we must complete preclinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. A failure of one or more clinical trials could occur at any stage of testing. The outcome of preclinical testing and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a particular clinical trial do not necessarily predict final results of that trial.

Moreover, preclinical and clinical data are often susceptible to multiple interpretations and analyses. Many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their products.

We may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize our product candidates, including that:

- regulators or institutional review boards may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may have delays in reaching or fail to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- clinical trials of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate; enrollment in these clinical trials may be slower than we anticipate, or participants may drop out of these clinical trials at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- regulators or institutional review boards may require that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials of our product candidates may be greater than we anticipate; and
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate.

If we are required to conduct additional clinical trials or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical trials of our product candidates or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we may:

- be delayed in obtaining marketing approval for our product candidates;

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

Product development costs will also increase if we experience delays in testing or in receiving marketing approvals. We do not know whether any clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates, could allow our competitors to bring products to market before we do, and could impair our ability to successfully commercialize our product candidates, any of which may harm our business and results of operations.

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

We may not be able to initiate or continue clinical trials for our product candidates if we are unable to identify and enroll a sufficient number of eligible patients to participate in these trials as required by the U.S. Food and Drug Administration, or FDA, or analogous regulatory authorities outside the United States. In addition, some of our competitors may have ongoing clinical trials for product candidates that would 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 also affected by other factors, including:

- severity of the disease under investigation;
- availability and efficacy of approved medications for the disease under investigation;
- eligibility criteria for the trial in question;
- perceived risks and benefits of the product candidate under study;
- efforts to facilitate timely enrollment in clinical trials;
- patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment; and
- proximity and availability of clinical trial sites for prospective patients.

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

If serious adverse effects or unexpected characteristics of our product candidates are identified during development, we may need to abandon or limit our development of some or all of our product candidates.

CB-839 is our only product candidate in Phase 1 clinical trials, all our other programs are in preclinical development and their risk of failure is high. It is impossible to predict when or if any of our product candidates will prove effective or safe in humans or will receive marketing approval. If our product candidates are associated with undesirable side effects or have characteristics that are unexpected, we may need to abandon their development or limit development to certain 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. Many agents that initially showed promise in early stage testing for treating cancer or other diseases have later been found to cause side effects that prevented further development of the agent.

We are in early clinical trials with CB-839 and we have seen several adverse events deemed possibly or probably related to CB-839. As of January 19, 2015, a variety of adverse events, or AEs, have been reported. Treatment-emergent Grade ≥ 3 AEs occurring in >5% of patients included febrile neutropenia, thrombocytopenia, hyponatremia, and increases in liver enzymes aspartate aminotransferase (AST), alanine aminotransferase (ALT) and alkaline phosphatase. We have treated an insufficient number of patients to assess the safety of CB-839 and, as our trials progress, we may experience more frequent or more severe adverse events. Our ongoing trials for CB-839 may fail due to safety issues, and we may need to abandon development of CB-839. Our arginase and hexokinase II inhibitor programs may also fail due to preclinical safety issues, causing us to abandon or delay the development of a product candidate from this program.

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

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

Even if any of our product candidates receive marketing approval, they 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 receive marketing approval, they may nonetheless fail to gain sufficient market acceptance by physicians, patients, third party payors and others in the medical community for us to achieve commercial success. For example, current cancer treatments like chemotherapy and radiation therapy for certain diseases and conditions 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 revenue to 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 to alternative treatments;
- our ability to offer any approved products for sale at competitive prices;
- convenience and ease of administration compared to 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;
- sufficient third-party coverage or reimbursement; and
- the prevalence and severity of any side effects.

If, in the future, we are unable to establish sales and marketing capabilities or to selectively enter into agreements with third parties to sell and market our product candidates, we may not be successful in commercializing our product candidates if and when they are approved.

We do not have a sales or marketing infrastructure and have no experience in the sale, marketing or distribution of pharmaceutical products. To achieve commercial success for any approved product for which we retain sales and marketing responsibilities, we must either develop a sales and marketing organization or outsource these functions to other third parties. In the future, we may choose to build a focused sales and marketing infrastructure to sell some of our product candidates if and when they are approved.

There are risks involved both with establishing our own sales and marketing capabilities and with entering into arrangements with third parties to perform these services. 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.

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

- our inability to recruit and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future products; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

If we enter into arrangements with third parties to perform sales, marketing and distribution services, our product revenue or the profitability of these product revenue to us may be lower than if we were to market and sell any products that we develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to sell and market our product candidates or may be unable to do so on terms that are favorable to us. We may have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates.

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

The development and commercialization of new drug products is highly competitive. We face competition with respect to our current product candidates, and will face competition with respect to any product candidates that we may seek to develop or commercialize in the future, from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. There are a number of large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of products for the treatment of the cancer indications for which we are focusing our product development efforts. Some of these competitive products and therapies are based on scientific approaches that are the same as or similar to our approach and others are based on entirely different approaches. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

We are developing our product candidates for the treatment of various cancers. There are a variety of available drug therapies marketed for cancer. In many cases, these drugs are administered in combination to enhance efficacy. Some of the currently approved drug therapies are branded and subject to patent protection, and others are available on a generic basis. Many of these approved drugs are well-established therapies and are widely accepted by physicians, patients and third-party payors. Insurers and other third-party payors may also encourage the use of generic products. We expect that if our product candidates are approved, they will be priced at a significant premium over competitive generic products. This may make it difficult for us to achieve our business strategy of using our product candidates in combination with existing therapies or replacing existing therapies with our product candidates.

There are also a number of product candidates in preclinical and clinical development by third parties to treat cancer by targeting cellular metabolism. Our principal competitors in the field of tumor metabolism include Advanced Cancer Therapeutics, LLC, Agios Pharmaceuticals, Inc., AstraZeneca plc, Bayer Pharma AG, Celgene Corporation, Cornerstone Pharmaceuticals, Inc., Eli Lilly and Company, Forma Therapeutics Holdings, LLC, GlaxoSmithKline plc, Novartis International AG, Pfizer Inc., Quantum Pharmaceutical, 3-V Biosciences, Inc., Roche Holdings, and its subsidiary Genentech Inc. and Takeda Company Limited. Our principal competitors in the field of tumor immunology include AstraZeneca plc, Boehringer Ingelheim GmbH, Bristol-Myers Squibb Company, Fortress Biotech, Inc, CureTech Ltd., EMD Serono, Inc., Flexus Biosciences, Incyte Corporation, iTeos Therapeutics SA, Merck & Co., Inc., NewLink Genetics Corporation, Ono Pharmaceuticals, Co., Ltd, Pfizer Inc., Roche Holdings AG and TG Therapeutics, Inc.

Our competitors may develop products that are more effective, safer, more convenient or less costly than any that we are developing or that would render our product candidates obsolete or non-competitive. In addition, our competitors may discover biomarkers that more efficiently measure metabolic pathways than our methods, which may give them a competitive advantage in developing potential products. Our competitors may also obtain marketing approval from the FDA or other regulatory authorities for their products sooner than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller and other early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties may compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

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

The regulations that govern marketing approvals, pricing and reimbursement for new drugs vary widely from country to country. In the United States, new 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 marketing approval is granted. As a result, we might obtain marketing approval for a drug in a particular country, but then be subject to price regulations that delay its commercial launch, possibly for lengthy time periods, and negatively impact the revenue we are able to generate from the sale of the drug in that country. Adverse pricing limitations may hinder our ability to commercialize and generate revenue from 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 reimbursement for these products and related treatments will be available from government health programs, 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 significant 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 payment 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. Reimbursement may not be available for any product that we commercialize and, if reimbursement is available, the level of reimbursement may not be sufficient. Reimbursement may impact the demand for, or the price of, any product candidate for which we obtain marketing approval. If reimbursement is not available or 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 products, and coverage may be more limited than the purposes for which the product is approved by the FDA or similar regulatory authorities outside the United States. Moreover, eligibility for reimbursement does not imply that any product 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 medical circumstances under which it is used, may be based on reimbursement levels already set for lower cost products or procedures or 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 policies and payment limitations in setting their own reimbursement policies. Our inability to promptly obtain coverage and profitable payment rates from both government-funded programs and private payors for any approved products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize our approved products and our overall financial condition.

Product liability lawsuits against us could cause us to incur substantial liabilities and could limit the commercialization of any product candidates we may develop.

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face an even greater risk if we commercially sell any products that we may develop after approval. If we cannot successfully defend ourselves against claims that our product candidates caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend any related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- the inability to commercialize any products we may develop.

Although we maintain product liability insurance coverage in the amount of up to $10.0 million per claim and in the aggregate, it may not be adequate to cover all liabilities that we may incur. We anticipate that we will need to increase our insurance coverage as we continue clinical trials and if we successfully commercialize any products. Insurance coverage is increasingly

expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

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. Our operations involve the use of hazardous and flammable materials, including chemicals and biological and radioactive materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees in our workplace, including those resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, chemical, hazardous or radioactive materials.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Risks Related to Our Dependence on Third Parties

We rely on third parties to conduct our clinical trials and some aspects of our research and preclinical testing, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials, research or testing.

We currently rely and expect to continue to rely on third parties, such as contract research organizations, clinical data management organizations, medical institutions and clinical investigators, to conduct our clinical trials and to conduct some aspects of our research and preclinical testing. Any of these third parties may terminate their engagements with us at any time. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, marketing approvals for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates. Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. If we need to enter into alternative arrangements, it would delay our product development activities.

Our reliance on these third parties for research and development activities will reduce our control over these activities but will not relieve us of our responsibilities. For example, we will remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires us to comply with standards, commonly referred to as Good Clinical Practices, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. We also are required to register ongoing clinical trials and post the results of completed clinical trials on a government sponsored database, available at www.clinicaltrials.gov, within certain timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

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

We do not have any manufacturing facilities. We currently rely, and expect to continue to rely, on third party manufacturers for the manufacture of our product candidates for preclinical studies and clinical trials and for commercial supply of any of these product candidates for which we obtain marketing approval. To date, we have obtained materials for CB-839 for our Phase 1 trial from third-party manufacturers. We have engaged third party manufacturers to obtain the active ingredient for CB-839 for pre-clinical testing and clinical trials. We do not have a long-term supply agreement with any third-party manufacturers, and we purchase our required drug supply on a purchase order basis.

We may be unable to establish agreements with third-party manufacturers or to do so on acceptable terms. Even if we are able to establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:

- reliance on the third party for regulatory compliance and quality assurance;

- the possible breach of the manufacturing agreement by the third party; and
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us.

Third-party manufacturers may not be able to comply with current U.S. Good Manufacturing Practice requirements, or cGMPs, or similar regulatory requirements outside the United States. Our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates, operating restrictions and criminal prosecutions, any of which could adversely affect supplies of our product candidates and harm our business and results of operations.

Any product that we may develop may compete with other product candidates and products for access to these manufacturing facilities. There are a limited number of manufacturers that operate under cGMPs and that might be capable of manufacturing for us.

Any performance failure on the part of our existing or future manufacturers could delay clinical development or marketing approval. We do not currently have arrangements in place for redundant supply for bulk drug substances. If any one of our current contract manufacturers cannot perform as agreed, we may be required to replace that manufacturer. Although we believe that there are several potential alternative manufacturers who could manufacture our product candidates, we may incur added costs and delays in identifying and qualifying any such replacement.

Our current and anticipated future dependence upon others for the manufacture of our product candidates or products may adversely affect our future profit margins and our ability to commercialize any product candidates that receive marketing approval on a timely and competitive basis.

We also currently rely, and expect to continue to rely, on third parties to store and distribute drug supplies for our clinical trials. Any performance failure on the part of these third parties could delay clinical development or marketing approval of our product candidates or commercialization of our drugs, producing additional losses and depriving us of potential revenue. Although we believe that there are several potential alternative third parties who could store and distribute drug supplies for our clinical trials, we may incur added costs and delays in identifying and qualifying any such replacement.

We may seek to selectively establish collaborations, and, if we are unable 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. For some of our product candidates, we may decide to collaborate with additional pharmaceutical and biotechnology companies for the development and potential commercialization of those product candidates.

We may also be restricted under existing license agreements from engaging in research and development activities or entering into future agreements on certain terms with potential collaborators. For example, pursuant to our license agreement with Symbioscience, we have agreed not to develop any other arginase inhibitors for use in human healthcare outside of the scope of that agreement.

We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market conditions generally. The collaborator may also consider alternative product candidates for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate.

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.

If we decide to collaborate with a third party in connection with any of our development programs or product candidates, 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 program or the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to 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.

To the extent we enter into any collaborations, we may depend on such collaborations for the development and commercialization of our product candidates. If those collaborations are not successful, we may not be able to capitalize on the market potential of our product candidates.

We may selectively seek third-party collaborators for the development and commercialization of our product candidates. Our current and any future collaborators for any collaboration arrangements include large and mid-size pharmaceutical companies, regional and national pharmaceutical companies and biotechnology companies. Pursuant to these arrangements and any potential future arrangements, we will have limited control over the amount and timing of resources that our collaborators dedicate to the development or commercialization of our product candidates. Our ability to generate revenue from these arrangements will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements.

Collaborations involving our product candidates pose many risks to us, including that:

- Collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations.
- Collaborators may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborator's strategic focus or available funding or external factors such as an acquisition that diverts resources or creates competing priorities.
- Collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing.
- Collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates or products if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours.
- A collaborator with marketing and distribution rights to one or more product candidates or products may not commit sufficient resources to the marketing and distribution of such drugs.
- Collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our proprietary information or expose us to potential litigation.
- Disputes may arise between the collaborators and us that result in the delay or termination of the research, development or commercialization of our product candidates or products or that result in costly litigation or arbitration that diverts management attention and resources.
- We may lose certain valuable rights under circumstances identified in our collaborations if we undergo a change of control.
- Collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates.
- Collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner or at all. If a future collaborator of ours were to be involved in a business combination, the continued pursuit and emphasis on our product development or commercialization program under such collaboration could be delayed, diminished or terminated.

We have in-licensed portfolios of arginase inhibitors and hexokinase II inhibitors, respectively, as part of our efforts to develop product candidates for these programs, and we are substantially dependent on these in-licenses for these programs. To the extent these in-licenses are terminated, our business may be harmed.

Risks Related to Our Intellectual Property

Recent laws and rulings by U.S. courts make it difficult to predict how patents will be issued or enforced in our industry.

Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may have a significant impact on our ability to protect our technology and enforce our intellectual property rights. There have been numerous recent changes to the patent laws and to the rules of the United States Patent and Trademark Office, or the USPTO, which may have a significant impact on our ability to protect our technology and enforce our intellectual property rights. For example, the Leahy-Smith

America Invents Act, which was signed into law in 2011, includes a transition from a "first-to-invent" system to a "first-to-file" system, and changes the way issued patents are challenged. Certain changes, such as the institution of *inter partes* review proceedings, came into effect on September 16, 2012. Substantive changes to patent law associated with the America Invents Act may affect our ability to obtain patents, and, if obtained, to enforce or defend them in litigation or post-grant proceedings, all of which could harm our business.

Furthermore, the patent positions of companies engaged in the development and commercialization of biologics and pharmaceuticals are particularly uncertain. Two cases involving diagnostic method claims and "gene patents" have recently been decided by the Supreme Court. On March 20, 2012, the Supreme Court issued a decision in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, or *Prometheus*, a case involving patent claims directed to measuring a metabolic product in a patient to optimize a drug dosage amount for the patient. According to the Supreme Court, the addition of well-understood, routine or conventional activity such as "administering" or "determining" steps was not enough to transform an otherwise patent ineligible natural phenomenon into patent eligible subject matter. On July 3, 2012, the USPTO issued guidance indicating that process claims directed to a law of nature, a natural phenomenon or an abstract idea that do not include additional elements or steps that integrate the natural principle into the claimed invention such that the natural principle is practically applied and the claim amounts to significantly more than the natural principle itself should be rejected as directed to non-statutory subject matter. On June 13, 2013, the Supreme Court issued its decision in *Association for Molecular Pathology v. Myriad Genetics, Inc.*, or *Myriad*, a case involving patent claims held by Myriad Genetics, Inc. relating to the breast cancer susceptibility genes BRCA1 and BRCA2. *Myriad* held that isolated segments of naturally occurring DNA, such as the DNA constituting the BRCA1 and BRCA2 genes, is not patent eligible subject matter, but that complementary DNA, which is an artificial construct that may be created from RNA transcripts of genes, may be patent eligible.

We cannot assure you that our efforts to seek patent protection for our technology and products will not be negatively impacted by the decisions described above, rulings in other cases or changes in guidance or procedures issued by the USPTO. We cannot fully predict what impact the Supreme Court's decisions in *Prometheus* and *Myriad* may have on the ability of life science companies to obtain or enforce patents relating to their products and technologies in the future.

Moreover, although the Supreme Court has held in *Myriad* that isolated segments of naturally occurring DNA are not patent-eligible subject matter, certain third parties could allege that activities that we may undertake infringe other gene-related patent claims, and we may deem it necessary to defend ourselves against these claims by asserting non-infringement and/or invalidity positions, or pay to obtain a license to these claims. In any of the foregoing or in other situations involving third-party intellectual property rights, if we are unsuccessful in defending against claims of patent infringement, we could be forced to pay damages or be subjected to an injunction that would prevent us from utilizing the patented subject matter. Such outcomes could harm our business.

If we are alleged to infringe intellectual property rights of third parties, our business could be harmed.

Our research, development and commercialization activities may be alleged to infringe patents, trademarks or other intellectual property rights owned by other parties. Certain of our competitors and other companies in the industry have substantial patent portfolios and may attempt to use patent litigation as a means to obtain a competitive advantage. We may be a target for such litigation. Even if our pending patent applications issue, they may relate to our competitors' activities and may therefore not deter litigation against us. The risks of being involved in such litigation may also increase as we become more visible as a public company and move into new markets and applications for our product candidates. There may also be patents and patent applications that are relevant to our technologies or product candidates that are unknown to us. For example, certain relevant patent applications may have been filed but not published. If such patents exist, or if a patent issues on any of such patent applications, that patent could be asserted against us. Third parties could bring claims against us that would cause us to incur substantial expenses and, if the claims against us are successful, could cause us to pay substantial damages, including treble damages and attorneys' fees for willful infringement. The defense of such a suit could also divert the attention of our management and technical personnel. Further, if an intellectual property infringement suit were brought against us, we could be forced to stop or delay research, development or sales of the product that is the subject of the suit.

As a result of infringement claims, or to avoid potential claims, we may choose or be compelled to seek intellectual property licenses from third parties. These licenses may not be available on acceptable terms, or at all. Even if we are able to obtain a license, the license would likely obligate us to pay license fees or royalties or both, and the rights granted to us likely would be nonexclusive, which would mean that our competitors also could obtain licenses to the same intellectual property. Ultimately, we could be prevented from commercializing a product candidate and/or technology or be forced to cease some aspect of our business operations if, as a result of actual or threatened infringement claims, we are unable to enter into licenses of the relevant intellectual property on acceptable terms. Further, if we attempt to modify a product candidate and/or technology or to develop alternative methods or products in response to infringement claims or to avoid potential claims, we could incur substantial costs, encounter delays in product introductions or interruptions in sales.

We may become involved in other lawsuits to protect or enforce our patents or other intellectual property, which could be expensive and time-consuming, and an unfavorable outcome could harm our business.

In addition to the possibility of litigation relating to infringement claims asserted against us, we may become a party to other patent litigation and other proceedings, including *inter partes* review proceedings, post-grant review proceedings, derivation proceedings declared by the USPTO and similar proceedings in foreign countries, regarding intellectual property rights with respect to our current or future technologies or product candidates or products. The cost to us of any patent litigation or other proceeding, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Patent litigation and other proceedings may also absorb significant management time. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could impair our ability to compete in the marketplace.

Competitors may infringe or otherwise violate our intellectual property, including patents that may issue to or be licensed by us. As a result, we may be required to file claims in an effort to stop third-party infringement or unauthorized use. Any such claims could provoke these parties to assert counterclaims against us, including claims alleging that we infringe their patents or other intellectual property rights. This can be expensive, particularly for a company of our size, and time-consuming, and even if we are successful, any award of monetary damages or other remedy we may receive may not be commercially valuable. In addition, in an infringement proceeding, a court may decide that our asserted intellectual property is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our intellectual property does not cover its technology. An adverse determination in any litigation or defense proceedings could put our intellectual property at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

If the breadth or strength of our patent or other intellectual property rights is compromised or threatened, it could allow third parties to commercialize our technology or products or result in our inability to commercialize our technology and products without infringing third-party intellectual property rights. Further, third parties may be dissuaded from collaborating with us.

Interference or derivation proceedings brought by the USPTO or its foreign counterparts may be necessary to determine the priority of inventions with respect to our patent applications, and we may also become involved in other proceedings, such as re-examination proceedings, before the USPTO or its foreign counterparts. Due to the substantial competition in the pharmaceutical space, the number of such proceedings may increase. This could delay the prosecution of our pending patent applications or impact the validity and enforceability of any future patents that we may obtain. In addition, any such litigation, submission or proceeding may be resolved adversely to us and, even if successful, may result in substantial costs and distraction to our management.

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. Moreover, intellectual property law relating to the fields in which we operate is still evolving and, consequently, patent and other intellectual property positions in our industry are subject to change and are often uncertain. We may not prevail in any of these suits or other efforts to protect our technology, and the damages or other remedies awarded, if any, may not be commercially valuable. During the course of this type of litigation, there could 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, the market price for our common stock could be significantly harmed.

We may not be able to protect our intellectual property rights throughout the world, which could impair our competitive position.

Filing, prosecuting, defending and enforcing patents on all of our technologies, product candidates and products throughout the world would be prohibitively expensive. As a result, we seek to protect our proprietary position by filing patent applications in the United States and in select foreign jurisdictions and cannot guarantee that we will obtain the patent protection necessary to protect our competitive position in all major markets. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export infringing products to territories where we may obtain patent protection but where enforcement is not as strong as that in the United States. These products may compete with our current and future products in jurisdictions where we do not have any issued patents, and our patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, which could make it difficult for us to stop the infringement of our patents or the marketing of competing products in violation of our proprietary rights generally. The legal systems of certain countries make it difficult or impossible to obtain patent protection for pharmaceutical products and services. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and could divert our efforts and attention from other aspects of our business.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position could be harmed.

In addition to seeking patents for some of our technologies and product candidates, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention assignment agreements with our employees and consultants that obligate them to assign to us any inventions developed in the course of their work for us. However, we cannot guarantee that we have executed these agreements with each party that may have or have had access to our trade secrets or that the agreements we have executed will provide adequate protection. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. As a result, we may be forced to bring claims against third parties, or defend claims that they bring against us, to determine ownership of what we regard as our intellectual property. Monitoring unauthorized disclosure is difficult and we do not know whether the procedures we have followed to prevent such disclosure are, or will be adequate. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States may be less willing or unwilling to protect trade secrets. If any of the technology or information that we protect as trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to, or independently developed by, a competitor, our competitive position would be harmed.

If our trademarks and trade names are not adequately protected, we may not be able to build name recognition in our markets of interest, and our business may be harmed.

Our trademarks or trade names may be challenged, infringed, circumvented, declared generic or determined to be infringing on other marks. As a means to enforce our trademark rights and prevent infringement, we may be required to file trademark claims against third parties or initiate trademark opposition proceedings. This can be expensive and time-consuming, particularly for a company of our size. In addition, in an infringement proceeding, a court may decide that a trademark of ours is not valid or is unenforceable, or may refuse to stop the other party from using the trademark at issue. We may not be able to protect our rights to these and other trademarks and trade names which we need to build name recognition by potential partners or customers in our markets of interest. We do not currently have any registered trademarks in the United States. Any trademark applications in the United States and in other foreign jurisdictions where we may file may not be allowed or may subsequently be opposed. In addition, other companies in the biopharmaceutical space may be using trademarks that are similar to ours and may in the future allege that our use of the trademark infringes or otherwise violates their trademarks. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be harmed.

Third parties may assert ownership or commercial rights to inventions we develop.

Third parties may in the future make claims challenging the inventorship or ownership of our intellectual property. We have written agreements with collaborators that provide for the ownership of intellectual property arising from our collaborations. In some instances, there may not be adequate written provisions to address clearly the resolution of intellectual property rights that may arise from a collaboration. If we cannot successfully negotiate sufficient ownership and commercial rights to the inventions that result from our collaborations, or if disputes otherwise arise with respect to the intellectual property developed in the course of a collaboration, we may be limited in our ability to capitalize on the market potential of these inventions.

In addition, we may face claims by third parties that our agreements with employees, contractors or consultants obligating them to assign intellectual property to us are ineffective or are in conflict with prior or competing contractual obligations of assignment, which could result in ownership disputes regarding intellectual property we have developed or will develop and interfere with our ability to capture the commercial value of such inventions. Litigation may be necessary to resolve an ownership dispute, and if we are not successful, we may be precluded from using certain intellectual property, or may lose our exclusive rights in that intellectual property. Either outcome could have an adverse impact on our business.

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, or will be delayed in commercializing, our product candidates, and our ability to generate revenue will be impaired.

Our product candidates and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by comparable authorities in other countries. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate. We have not received approval to market any of our product candidates from regulatory authorities in any jurisdiction. We have only limited experience in filing and supporting the applications necessary to gain marketing approvals and expect to rely on

third-party contract research organizations to assist us in this process. Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Our product candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals, both in the United States and elsewhere, is expensive, may take many years and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. We cannot assure you that we will ever obtain any marketing approvals in any jurisdiction. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations or changes in regulatory review for each submitted product application may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional preclinical or other studies, and clinical trials. In addition, varying interpretations of the data obtained from preclinical testing and clinical trials could delay, limit or prevent marketing approval of a product candidate. Additionally, any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

Any product candidate for which we obtain marketing approval could be subject to marketing restrictions or withdrawal from the market, and we may be subject to penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our products.

Any product candidate for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration and listing requirements, cGMP requirements, quality assurance and corresponding maintenance of records and documents and requirements regarding the distribution of samples to physicians and recordkeeping. Even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the medicine. The FDA closely regulates the postapproval marketing and promotion of drugs to ensure that they are marketed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA imposes stringent restrictions on manufacturers' communications regarding off-label use and if we do not market our products for their approved indications, we may be subject to enforcement action for off-label marketing.

In addition, later discovery of previously unknown problems with our products, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on such products, manufacturers or manufacturing processes;
- restrictions on the labeling, marketing, distribution or use of a product;
- requirements to conduct post-approval clinical trials;
- warning or untitled letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- fines, restitution or disgorgement of profits or revenue;
- suspension or withdrawal of marketing approvals;
- refusal to permit the import or export of our products;
- product seizure; and
- injunctions or the imposition of civil or criminal penalties.

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

Healthcare providers, physicians and third-party payors 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 market, sell and distribute our medicines for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- the federal healthcare anti-kickback statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal and state healthcare programs such as Medicare and Medicaid;
- the federal False Claims Act imposes criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services;
- the federal transparency requirements under the Affordable Care Act requires manufacturers of drugs, devices, biologics and medical supplies to report to the Department of Health and Human Services information related to physician payments and other transfers of value and physician ownership and investment interests; and
- analogous state laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures.

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

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 we may obtain.

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.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or Medicare Modernization Act, 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 Medicare Modernization Act 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 Medicare Modernization Act may result in a similar reduction in payments from private payors.

More recently, in March 2010, President Obama signed into law the Affordable Care Act, 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 health care and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. Effective October 1, 2010, the Affordable Care Act revises the definition of "average manufacturer price" for reporting purposes, which could increase the amount of Medicaid drug rebates to states. Further, the new law imposes a significant annual fee on companies that manufacture or import branded prescription drug products. Substantial new provisions affecting compliance have also been enacted, which may affect our business practices with health care practitioners. We will not know the full effects of the Affordable Care Act until applicable federal and state agencies issue regulations or guidance under the new law. Although it is too early to determine the effect of the Affordable Care Act, the new law appears likely to continue the pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

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.

Risks Related to Employee Matters and Managing Growth

Our future success depends on our ability to retain our senior management team and to attract, retain and motivate qualified personnel.

We are highly dependent upon our senior management team, as well as the other principal members of our research and development teams. All of our executive officers are employed "at will," meaning we or they may terminate the employment relationship at any time. We do not maintain "key person" insurance for any of our executives or other employees. The loss of the services of any of these persons could impede the achievement of our research, development and commercialization objectives.

Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors, may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

We expect to expand our operations, and may encounter difficulties in managing our growth, which could disrupt our business.

We expect to expand the scope of our operations, particularly in the areas of drug development, regulatory affairs and sales and marketing. 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 expected expansion of our operations or recruit and train additional qualified personnel. Moreover, the expected expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

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

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

available for operations and other uses. We cannot predict the number, timing or size of future acquisitions or the effect that any such transactions might have on our operating results.

Risks Related to Our Common Stock

The trading price of our common stock is likely to be volatile, and purchasers of our common stock could incur substantial losses.

Our stock price has fluctuated in the past and is likely to be volatile in the future. The stock market in general and the market for biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may experience losses on their investment in our common stock. The market price for our common stock may be influenced by many factors, including:

- the success of competitive products or technologies;
- regulatory actions with respect to our product candidates or our competitors' product and product candidates;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- results of clinical trials of our product candidates or those of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- the results of our efforts to in-license or acquire additional products or product candidates;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- inconsistent trading volume levels of our shares;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or our other stockholders;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section.

In addition, in the past, stockholders have initiated class action lawsuits against companies following periods of volatility in the market prices of these companies' stock. Such litigation, if instituted against us, could cause us to incur substantial costs and divert management's attention and resources.

Concentration of ownership of our common stock among our existing executive officers, directors and principal stockholders may prevent new investors from influencing significant corporate decisions.

Our executive officers, directors and current beneficial owners of 5% or more of our common stock, in the aggregate, beneficially own a significant percentage of our outstanding common stock. These persons, acting together, will be able to significantly influence all matters requiring stockholder approval, including the election and removal of directors and any merger or other significant corporate transactions. The interests of this group of stockholders may not coincide with the interests of other stockholders.

Our quarterly operating results may fluctuate significantly or may fall below the expectations of investors or securities analysts, each of which may cause our stock price to fluctuate or decline.

We expect our operating results to be subject to quarterly fluctuations and will be affected by numerous factors, including:

- our ability to successfully develop, obtain regulatory approvals, and market and sell CB-839 and our other product candidates;
- the success of competitive products or technologies;
- results of clinical trials of our product candidates or those of our competitors;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- the results of our efforts to discover, develop, acquire or in-license additional product candidates or medicines;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section.

If our quarterly operating results fall below the expectations of investors or securities analysts, the price of our common stock could decline substantially. Furthermore, any quarterly fluctuations in our operating results may, in turn, cause the price of our stock to fluctuate substantially. We believe that quarterly comparisons of our financial results are not necessarily meaningful and should not be relied upon as an indication of our future performance.

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

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business, our market and our competitors. We do not have any control over these analysts. If one or more of the analysts who cover us downgrade our shares or change their opinion of our shares, our share price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

We will incur costs and demands upon management as a result of complying with the laws and regulations affecting public companies in the United States, which may harm our operating results.

As a public company listed in the United States, we will incur significant additional legal, accounting and other expenses. In addition, changing laws, regulations and standards relating to corporate governance and public disclosure, including regulations implemented by the Securities and Exchange Commission, or the SEC, and the NASDAQ Global Market, may increase legal and financial compliance costs and make some activities more time-consuming. These laws, regulations and standards are subject to varying interpretations, and as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If, notwithstanding our efforts to comply with new laws, regulations and standards, we fail to comply, regulatory authorities may initiate legal proceedings against us, and our business may be harmed.

Further, failure to comply with these laws, regulations and standards might also make it more difficult for us to obtain certain types of insurance, including director and officer liability insurance, and we might be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these events could also make it more difficult for us to attract and retain qualified persons to serve on our Board of Directors, on committees of our Board of Directors or as members of senior management.

We do not anticipate paying any cash dividends on our common stock so any returns will be limited to changes in the value of our common stock.

We have never declared or paid cash dividends on our common stock. We currently intend to retain our future earnings, if any, to fund the development and growth of our business. In addition, the terms of any existing or future credit facility may restrict our ability to pay dividends. Any return to stockholders will therefore be limited to the increase, if any, of our stock price.

We are an "emerging growth company," and we expect to comply with the reduced disclosure requirements applicable to emerging growth companies, which could make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, or JOBS Act, enacted in April 2012, and for as long as we continue to be an "emerging growth company," we expect to take advantage of exemptions from various reporting requirements applicable to other public companies but not to "emerging growth companies," including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We will continue to be an "emerging growth company" until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the closing of this offering, (b) in which we have total annual gross revenue of at least $1.0 billion, or (c) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds $700 million as of the prior December 31st, and (2) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period. We cannot predict if investors will find our common stock less attractive if we choose to rely on these exemptions. If some investors find our common stock less attractive as a result of any choices to reduce future disclosure, there may be a less active trading market for our common stock, and our stock price may be more volatile.

If we are unable to maintain proper and effective internal controls over financial reporting, the accuracy and timeliness of our financial reporting may be adversely affected.

Effective internal controls are necessary for us to provide reliable financial reports and to protect from fraudulent, illegal or unauthorized transactions. If we cannot provide effective controls and reliable financial reports, our business and operating results could be harmed. We have in the past discovered, and may in the future discover, areas of our internal controls that need improvement. For example, in connection with the audit of our financial statements from inception through the year ended December 31, 2013, we and our independent public accounting firm identified a material weakness in our internal control over financial reporting. A "material weakness" is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. The material weakness related to a deficiency in the operation of our internal controls over the accounting for a non-routine, complex equity transaction, which resulted in material post-closing adjustments to the convertible preferred stock and additional paid-in capital balances in the financial statements for the years ended December 31, 2011 and 2012. Specifically, we did not properly account for a reduction in the liquidation preference amount the holders of our Series A preferred stock would be entitled to receive in the event we consummate a change in control.

We have implemented changes to our disclosure controls and procedures and internal control over financial reporting to remediate the material weakness identified above. We have strengthened the operation of our internal controls over the accounting for non-routine, complex equity transactions, including increasing the depth and experience within our accounting and finance organization, as well as designing and implementing improved processes and internal controls to identify such matters. We have hired additional personnel to build our financial management and reporting infrastructure, including the hiring of our Chief Financial Officer and Vice President, Finance, in the second quarter of 2014. While we believe, we have remediated this material weakness, neither we nor our independent registered public accounting firm has performed an evaluation of our internal control over financial reporting during any period in accordance with the provisions of the Sarbanes-Oxley Act. In light of the material weakness that was identified as a result of the limited procedures performed, we believe that it is possible that, had we and our independent registered public accounting firm performed an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act, additional material weaknesses or significant control deficiencies may have been identified.

If material weaknesses or control deficiencies occur in the future, we may be unable to report our financial results accurately on a timely basis, which could cause our reported financial results to be materially misstated and result in the loss of investor confidence and cause the market price of our common stock to decline.

We will be required, pursuant to Section 404 of the Sarbanes-Oxley Act, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting for the fiscal year ending December 31, 2015. This assessment will need to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. Our independent registered public accounting firm will not be required to attest to the effectiveness of our internal control over financial reporting until our first annual report required to be filed with the SEC following the later of the date we are deemed to be an "accelerated filer" or a "large accelerated filer," each as defined in the Securities Exchange Act of 1934, as amended, or the Exchange Act, or the date we are no longer an "emerging growth company," as defined in the JOBS Act. We will be required to disclose changes made in our internal control and procedures on a quarterly basis. To comply with the requirements of being a public company, we may need to undertake various actions, such as implementing new internal controls and procedures and hiring accounting or internal audit staff. We have begun the costly and challenging process of compiling the system and processing documentation necessary to perform the evaluation needed to comply with Section 404, when applicable, and we may not be able to complete our evaluation, testing and any required remediation in a timely fashion.

Future sales of shares by existing stockholders could cause our stock price to decline.

Sales of a substantial number of shares of our common stock in the public market, or the perception that the sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock.

Provisions in our corporate charter documents and under Delaware law may prevent or frustrate attempts by our stockholders to change our management or hinder efforts to acquire a controlling interest in us, and the market price of our common stock may be lower as a result.

There are provisions in our certificate of incorporation and bylaws that may make it difficult for a third party to acquire, or attempt to acquire, control of our company, even if a change in control was considered favorable by our stockholders.

Our charter documents also contain other provisions that could have an anti-takeover effect, such as:

- establishing a classified Board of Directors so that not all members of our Board of Directors are elected at one time;
- permitting the Board of Directors to establish the number of directors and fill any vacancies and newly created directorships;
- providing that directors may only be removed for cause;
- prohibits cumulative voting for directors;
- requiring super-majority voting to amend some provisions in our certificate of incorporation and bylaws;
- authorizing the issuance of "blank check" preferred stock that our Board of Directors could use to implement a stockholder rights plan;
- eliminating the ability of stockholders to call special meetings of stockholders; and
- prohibiting stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibit a person who owns 15% or more of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. Any provision in our certificate of incorporation or our bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or our bylaws; or any action asserting a claim against us that is governed by the internal affairs doctrine. The choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. If a court were to find the choice of forum provision contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business and financial condition.

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

Use of Proceeds from our Public Offering of Common Stock

On October 7, 2014, we closed our IPO, in which we issued and sold 8,000,000 shares of our common stock at a public offering price of $10.00 per share, for net proceeds of $71.6 million, after deducting underwriting discounts and commissions of $5.6 million and offering expenses of $2.8 million paid by the Company. No payments for such expenses were made directly or indirectly to (i) any of our officers or directors or their associates, (ii) any persons owning 10% or more of any class of our equity securities, or (iii) any of our affiliates. The offer and sale of all of the shares in the IPO were registered under the Securities Act pursuant to a registration statement on Form S-1 (File No. 333-198355), which was declared effective by the SEC on October 1, 2014. Following the sale of the shares in connection with the closings of the IPO, the offering terminated.

There has been no material change in the planned use of proceeds from our IPO as described in our prospectus dated October 1, 2014, filed with the SEC pursuant to Rule 424(b) under the Securities Act of 1933, as amended.

Repurchases of Shares or of Company Equity Securities

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits

The documents listed in the Exhibit Index of this Quarterly Report on Form 10-Q are herein incorporated by reference.

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.

Calithera Biosciences, Inc.

Date: May 11, 2015

By: /s/ Susan M. Molineaux
Susan M. Molineaux, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Calithera Biosciences, Inc.

Date: May 11, 2015

By: /s/ William D. Waddill
William D. Waddill
Senior Vice President, Chief Financial Officer, Treasurer and Secretary
(Principal Financial and Accounting Officer)

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporation By Reference			
		Form	SEC File No.	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation of Calithera Biosciences, Inc.	8-K	001-36644	3.1	10/07/2014
3.2	Amended and Restated Bylaws of Calithera Biosciences, Inc.	S-1	333-198355	3.4	9/19/2014
4.1	Reference is made to Exhibits 3.1 through 3.2.				
4.2	Form of common stock certificate.	S-1	333-198355	4.1	9/25/2014
10.17†	License and Research Agreement by and between Calithera Biosciences, Inc., High Point Pharmaceuticals, LLC and TransTech Pharma LLC, dated as of March 5, 2015.				
31.1	Certifications of Principal Executive Officer pursuant to Rule 13a-14(a).				
31.2	Certifications of Principal Financial Officer pursuant to Rule 13a-14(a).				
32.1*	Certification of Principal Executive Officer pursuant to Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
32.2*	Certification of Principal Financial Officer pursuant to Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101.INS	XBRL Instance Document.				
101.SCH**	XBRL Taxonomy Extension Schema Document.				
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document.				
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document.				
101.LAB**	XBRL Taxonomy Extension Label Linkbase Document.				
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document.				

† Confidential treatment has been requested as to certain portions, which have been omitted and submitted separately to the Securities and Exchange Commission.

* The Certifications attached as Exhibits 32.1 and 32.2 that accompany this Quarterly Report on Form 10-Q are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Calithera Biosciences, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Form 10-Q, irrespective of any general incorporation language contained in such filing.

** Attached as Exhibit 101 to this Quarterly Report on Form 10-Q for the quarter ended March 31, 2015 formatted in XBRL (Extensible Business Reporting Language): (i) Condensed Balance Sheets, (ii) Condensed Statements of Operations, (iii) Condensed Statements of Comprehensive Income (Loss), (iv) Condensed Statements of Cash Flows, and (v) Notes to Financial Statements, tagged as blocks of text and including detailed tags.

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

Exhibit 10.17

LICENSE AND RESEARCH AGREEMENT

BY AND BETWEEN

CALITHERA BIOSCIENCES INC.

AND

HIGH POINT PHARMACEUTICALS, LLC
TRANSTECH PHARMA LLC

DATED AS OF MARCH 5, 2015

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LICENSE AND RESEARCH AGREEMENT

THIS LICENSE AND RESEARCH AGREEMENT is entered into this 5th day of March, 2015 (the "Effective Date") by and between Calithera Bioscience Inc., a corporation organized under the laws of the State of Delaware, having a business address at 343 Oyster Point Blvd #200, South San Francisco, CA 94080 ("Calithera"), on the one hand, and High Point Pharmaceuticals, LLC, a company organized under the laws of the State of Delaware, having a business address at 4170 Mendenhall Oaks Parkway, High Point, NC 27265 ("HPP") and TransTech Pharma LLC, a company organized under the laws of the State of Delaware, having a business address at 4170 Mendenhall Oaks Parkway, High Point, NC 27265 ("TransTech" and collectively with HPP, "High Point"), on the other hand.

WHEREAS, High Point has developed or obtained rights to High Point Patent Rights (as hereinafter defined) and High Point Know-How (as hereinafter defined);

WHEREAS, High Point has developed certain Hexokinase Inhibitors (as hereinafter defined), and Calithera wishes to fund a research program that will include the development of additional Hexokinase Inhibitors by High Point; and

WHEREAS, Calithera desires to obtain an exclusive license under the High Point Patent Rights and the High Point Know-How to make and use such Hexokinase Inhibitors, and to develop and commercialize Licensed Products (as hereinafter defined), under the terms and conditions set forth herein, and High Point desires to grant such a license.

NOW, THEREFORE, the Parties agree as follows:

ARTICLE I.
DEFINITIONS

The following terms, whether used in the singular or plural, shall have the following meanings:

1.1. "Acceptable Human Exposure". Acceptable Human Exposure means the demonstration of all of the following in a clinical trial of a Licensed Product: (a) [*]; (b) [*]; and (c) [*].

1.2. "Act". Act means both the United States Federal Food, Drug, and Cosmetic Act, as amended from time to time, and the regulations promulgated under the foregoing.

1.3. "Affiliate". Affiliate means any Person directly or indirectly controlled by, controlling or under common control with, a Party, but only for so long as such control shall continue. For purposes of this definition, "control" (including, with correlative meanings, "controlled by", "controlling" and "under common control with") means, with respect to a Person, possession, direct or indirect, of (a) the power to direct or cause direction of the management and policies of such Person (whether through ownership of securities or partnership or other ownership interests, by contract or otherwise), or (b) at least 50% of the voting securities or other comparable equity interests of such Person.

1.4. "Bankruptcy Code". Bankruptcy Code means Title 11 of the United States Code, as amended from time to time.

1.5. "Business Day". Business Day means a day that is not a Saturday, Sunday or a day on which banking institutions in New York City, New York are authorized or required by Law to remain closed.

1.6. "Calendar Quarter". Calendar Quarter means each of the periods ending on March 31, June 30, September 30 and December 31 of any year.

1.7. "Calendar Year". Calendar Year means each calendar year during the Term.

1.8. "Calithera-Derived Molecule". Calithera-Derived Molecule means any Hexokinase Inhibitor that is (a) [*] or [*], (b) [*] or [*] or [*], or (c) [*] or [*]. Notwithstanding the foregoing, Calithera-Derived Molecule [*] either [*] or [*].

1.9. "Calithera Intellectual Property". Calithera Intellectual Property means the Calithera Know-How and the Calithera Patent Rights.

1.10. "Calithera Know-How". Calithera Know-How means all Know-How that is Controlled by Calithera as of the Effective Date or thereafter during the Term and that is necessary or reasonably needed to research, Develop or Manufacture any Program Molecule or any Licensed Product.

1.11. "Calithera Patent Rights". Calithera Patent Rights means (a) all Patent Rights that are Controlled by Calithera as of the Effective Date or thereafter during the Term and that is necessary or reasonably needed to research, Develop or Manufacture any Program Molecule or any Licensed Product and (b) Program Patent Rights.

1.12. "Clinical Candidate". Clinical Candidate means a Program Molecule that:

(a) is shown to have the following profile:

(i) [*]; or

(b) is selected by Calithera as, or otherwise is, the subject of [*].

1.13. "Combination Product". Combination Product means (a) any pharmaceutical product that is a single formulation consisting of a Program Molecule and one or more other active compounds or active ingredients, which other active compounds or active ingredients are not another Program Molecule, are not Covered by a High Point Patent Right or Program Patent Right, and do not embody any High Point Know-How, in all such cases prior to such other active compound or active ingredient ("Other API") being combined with such Program Molecule or (b) any combination of a Program Molecule sold together with any separately formulated Other API for a single invoiced price.

1.14. "Commercialization" or "Commercialize". Commercialization or Commercialize means activities directed to obtaining pricing and reimbursement approvals, marketing, promoting, distributing, importing or selling a product. For purposes of clarity, Commercialization shall not include any activities related to Manufacturing.

1.15. "Commercially Reasonable Efforts". Commercially Reasonable Efforts means, with respect to a Program Molecule or Licensed Product, the carrying out of obligations under this Agreement with those efforts and resources that a biotechnology company of similar size and resources to Calithera would use were it Developing or Commercializing its own pharmaceutical products that are of similar stage of Development or Commercialization or market potential as the Licensed Product, taking into account product profile, product labeling or anticipated labeling, present and future market potential, strength and duration of patent protection and anticipated exclusivity, past performance of Licensed Products, financial return, safety, efficacy and other medical and clinical considerations, present and future regulatory environment and competitive market conditions, launching strategy and other relevant scientific, technical, legal, operational and commercial factors, all as measured by the facts and circumstances at the time such efforts are due.

1.16. "Control" or "Controlled". Control or Controlled means, with respect to any intellectual property right or other intangible or tangible property, the possession (whether by ownership or license (other than pursuant to this Agreement)) by a Party of the ability to grant to the other Party a license or sublicense or access as provided herein without violating the terms of any agreement with any other Person.

1.17. "Cover", "Covering" or "Covered". Cover, Covering or Covered means, with respect to a product, technology, process or method that, in the absence of ownership of or a license granted under a Valid Claim, the manufacture, use, offer for sale, sale or importation of such product or the practice of such technology, process or method would infringe such Valid Claim (or, in the case of a Valid Claim that has not yet issued, would infringe such Valid Claim if it were to issue).

1.18. "Covered Period". Covered Period means the period commencing on the Effective Date and ending on [*].

1.19. "Development" or "Develop". Development or Develop means pre-clinical and clinical research and drug development activities, including toxicology and other pre-clinical development efforts, stability testing, process development, formulation development, delivery system development, quality assurance and quality control development, statistical analysis, clinical pharmacology, clinical studies (including pre- and post-approval studies and investigator sponsored clinical studies), regulatory affairs, and Regulatory Approval and clinical study regulatory activities (excluding regulatory activities directed to obtaining pricing and reimbursement approvals). For purposes of clarity, "Development" and "Develop" excludes basic research, screening and

discovery activities, including molecular biology, biochemistry and pre-clinical pharmacology, directed to the identification of new compounds or molecules.

1.20. "Development Plan". Development Plan means the plan for the clinical Development of Licensed Products in the Field in the Territory as it may be modified from time to time, from which Calithera may redact proprietary information as well as information that is not relevant to Licensed Products.

1.21. "Development Term". Development Term means, with respect to a Program Molecule, the period commencing on the Effective Date and ending as of the date of the First Commercial Sale of a Licensed Product containing such Program Molecule to occur for any Indication in any Major Market.

1.22. "EMA". EMA means The European Medicines Agency and any successor agency thereto.

1.23. "EU". EU means the European Union, as it may be redefined from time to time.

1.24. "FDA". FDA means the United States Food and Drug Administration and any successor agency thereto.

1.25. "Field". Field means any therapeutic, prophylactic, preventative or diagnostic use.

1.26. "First Commercial Sale". First Commercial Sale means, with respect to a Licensed Product in a country, the earlier of the issuance of the first invoice or the receipt of the first payment for a shipment of a Licensed Product in commercial quantities for commercial sale by Calithera, its Affiliates or its Sublicensees to a Third Party after receipt of the first Regulatory Approval for such Licensed Product in such country.

1.27. "FTE". FTE means a full-time equivalent person year (consisting of a total of [*] hours per year) of scientific, technical or managerial (but not administrative) research work. An individual who works more than [*] hours in a year will be treated as one FTE regardless of the number of hours worked.

1.28. "FTE Rate". FTE Rate means $275,000 per FTE.

1.29. "GAAP". GAAP means accounting principles generally accepted in the United States of America, as in effect from time to time.

1.30. "Generic Competition". Generic Competition exists, with respect to a Licensed Product in any country in the Territory in a given Calendar Quarter, if, during such Calendar Quarter, one or more Generic Products are commercially available in such country.

1.31. "Generic Product". Generic Product means, with respect to a given Licensed Product, any pharmaceutical product sold by a Third Party, not authorized by Calithera, its Affiliates or Sublicensees, that (a) contains as an active pharmaceutical ingredient a Program Molecule included in such Licensed Product or a prodrug, metabolite, salt, ester, hydrate, solvate, polymorph, stereoisomer, enantiomer, free acid form, crystal form, free base form, or racemate of such Program Molecule, and (b) is either (i) approved for sale in reliance on, in whole or in part, the prior approval of such Licensed Product as determined by the applicable Regulatory Authority, or (ii) is otherwise substitutable for such Licensed Product under applicable Laws by a pharmacist without the intervention of the prescribing physician.

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

1.33. "Hexokinase Inhibitor". Hexokinase Inhibitor means any Small Molecule having the following characteristic: [*] assay described in Schedule 1.33.

1.34. "High Point Intellectual Property". High Point Intellectual Property means the High Point Know-How and the High Point Patent Rights and all of High Point's rights in the Joint Inventions and Joint Patents.

1.35. "High Point Know-How". High Point Know-How means any Know-How that is Controlled by High Point as of the Effective Date or thereafter during the Term and that is necessary or reasonably needed to Develop, make, have made, use, sell, offer for sale or import Program Molecules or Licensed Products.

1.36. "High Point Molecule". High Point Molecule means (a) any Hexokinase Inhibitor that is (i) Controlled by High Point as of the Effective Date, (ii) disclosed or claimed in the High Point Patent Rights, or (iii) invented solely by or on behalf of High Point in the conduct of the Research Program or (b) any other Small Molecule disclosed or claimed in the High Point Patent Rights existing as of the Effective Date. For clarity, HPP399 is a High Point Molecule.

1.37. "High Point Patent Rights". High Point Patent Rights means (a) all Patent Rights that are Controlled by High Point as of the Effective Date or thereafter during the Term that are necessary or reasonably needed to Develop, make, have made, use, sell, offer for sale or import Program Molecules or Licensed Products and (b) High Point's interest in the Joint Patents. The High Point Patent Rights existing as of the Effective Date are set forth on Schedule 1.37.

1.38. "HPP399". HPP399 means the molecule identified by High Point using High Point's internal reference number 00309399, the structure of which High Point has disclosed to Calithera as of the Effective Date. For purposes of clarity, HPP399 shall be deemed to be a Hexokinase Inhibitor.

1.39. "IND". IND means an investigational new drug application filed with the FDA with respect to a Licensed Product, or equivalent application filed with the Regulatory Authority of a country in the Territory other than the United States.

1.40. "IND Enabling GLP Toxicology Study". IND Enabling GLP Toxicology Study means a toxicology (acute or sub-chronic), genotoxicity, or safety pharmacology study that meets the requirements set forth in 21 C.F.R. Part 58 or comparable regulations in countries outside the United States pertaining to good laboratory practice for use or intended for use in an IND, but excluding any toxicology study performed in the course of evaluating compounds prior to the selection of a Clinical Candidate.

1.41. "Indication". Indication means the description of use of a Licensed Product in the treatment, prevention or diagnosis of a recognized disease or condition as provided for in the Code of Federal Regulations (CFR) labeling requirements in 21 CFR Part 201 – Labeling. For the purposes of this Agreement, a new Indication [*] or [*].

1.42. "Initiation". Initiation means, with respect to any Phase I Clinical Trial, Phase II Clinical Trial or Phase III Clinical Trial, the date on which the first volunteer or patient in such trial has received his or her initial dose.

1.43. "Know-How". Know-How means proprietary, non-public information and materials, whether patentable or not, including (a) ideas, discoveries, inventions, improvements or trade secrets, (b) pharmaceutical, chemical and biological materials, products and compositions, (c) tests, assays, techniques, data, methods, procedures, formulas, or processes, (d) technical, medical, clinical, toxicological and other scientific data and other information relating to any of the foregoing, and (e) drawings, plans, designs, diagrams, sketches, specifications or other documents containing or relating to such information or materials.

1.44. "Law" or "Laws". Law or Laws means all laws, statutes, rules, regulations, orders, judgments or ordinances of any Governmental Authority.

1.45. "Legal Exclusivity". Legal Exclusivity means, with respect to a Licensed Product and a country or region, the right to exclude any Person who is not a Calithera Affiliate or a Sublicensee from Commercializing a product that could compete with such Licensed Product in such country or region, either through (a) a Valid Claim included within a High Point Patent Right Covering such Licensed Product in such country or region, or (b) data exclusivity rights, orphan drug designation, or such other rights conferred by a Regulatory Authority or other applicable Governmental Authority in such country or region.

1.46. "Licensed Product". Licensed Product means any pharmaceutical preparation containing a Program Molecule, including any Combination Product.

1.47. "Losses". Losses means any and all (a) claims, losses, liabilities, damages, fines, royalties, governmental penalties, deficiencies, interest, awards, and judgments, (b) with respect to Third Parties, settlement amounts and all of the items referred to in clause (a), and (c) in connection with all of the items referred to in clauses (a) and (b) above, any and all costs and expenses (including reasonable attorney fees and all other out-of-pocket expenses reasonably incurred in investigating, preparing or defending any litigation or proceeding, commenced or threatened).

1.48. "Major EU Country". Major EU Country means France, Germany, Italy, Spain or the United Kingdom.

1.49. "Major Markets". Major Markets means, collectively, the United States, the Major EU Countries and Japan, and Major Market means any one of them.

1.50. "Manufacture" or "Manufacturing". Manufacture or Manufacturing means activities directed to producing, manufacturing, processing, filling, finishing, packaging, labeling, quality assurance testing and release, shipping and storage of a product.

1.51. "Marketing Authorization". Marketing Authorization means the act of a Regulatory Authority or other Governmental Authority necessary for the marketing and sale of a Licensed Product in a particular Indication or Indications in a country in the Territory, including, (a) in the case of the United States, the granting of Regulatory Approval, and, (b) in the case of a country in the Territory other than the United States in which Pricing Approval is required, the granting of both Regulatory Approval and Pricing Approval by the applicable Regulatory Authority or other Governmental Authority in such country. As used in this definition, "Pricing Approval" means the approval or governmental decision establishing a price for a Licensed Product that can be charged to consumers and will be reimbursed by the applicable Governmental Authority(ies) in such country.

1.52. "MHLW". MHLW means the Japanese Ministry of Health, Labour and Welfare and any successor agency thereto.

1.53. "NDA". NDA means a New Drug Application, as the case may be, as defined in the Act, filed with the FDA with respect to a Licensed Product, or an equivalent application filed with the Regulatory Authority of a country in the Territory other than the United States.

1.54. "Net Sales". Net Sales means the gross amounts invoiced (or, in the absence of an invoice, received) by Calithera, its Affiliates and Sublicensees (each, a "Selling Party") to any Third Party that is not a Sublicensee with respect to sales of Licensed Products in the Territory, calculated in the same manner as reported in its audited financial statements, less the sum of the following to the extent attributable to such sales:

(a) Discounts, credits, refunds, adjustments, retroactive price reductions, chargebacks and rebates actually allowed by Calithera, its Affiliates or their Sublicensees directly for a Licensed Product, including those granted to managed healthcare organizations, institutions or other buying groups, providers of healthcare or social and welfare systems;

(b) Sales, import, export, customs, value added taxes, tariffs, duties and other governmental charges and fees (including annual fees due under Section 9008 of the United States Patient Protection and Affordable Care Act of 2010 (Pub. L. No. 111-148)) directly imposed on the Licensed Products without reimbursement from any Third Party;

(c) Freight and insurance costs actually incurred by Calithera, its Affiliates or their Sublicensees directly on outbound shipping of Licensed Products;

(d) Amounts actually allowed or credited on rejections or returns of sales of Licensed Products by Calithera, its Affiliates or their Sublicensees, including returns by reason of a recall or corrective action;

(e) Amounts paid or credited to customers or third party distributors for inventory management, distribution, warehousing, and related services to the extent consistent with industry standards;

(f) arm's-length fees paid to Third Party consignees or agents in connection with the sale of the Licensed Product; and

(g) Amounts previously included in Net Sales of such Licensed Product that are written-off by Calithera, its Affiliates or Sublicensees as uncollectible in accordance with GAAP.

Even if there is an overlap between any of the deductions described in (a) through (g) above, each individual item shall only be deducted once in the overall Net Sales calculation.

Net Sales shall be determined from books and records maintained in accordance with GAAP, consistently applied throughout the organization and across all products of the entity whose sales of Licensed Product are giving rise to Net Sales. Licensed Products transferred for use in clinical or non-clinical research and trials shall be excluded from Net Sales. Licensed Products sold or transferred in connection with compassionate sales or use or indigent programs and Licensed Product samples shall not be counted

toward Net Sales to the extent that such Licensed Products are sold or transferred at or below fully burdened manufacturing and distribution costs. Licensed Products transferred between Selling Parties shall not count toward Net Sales unless such Selling Party is an end-user of such Licensed Product.

In the event that Program Molecules are sold or otherwise commercially disposed of as part of Combination Products, the Net Sales of such Combination Products, for purposes of determining royalty payments, shall be determined, as to each unit of Combination Product sold or otherwise disposed of, by multiplying (x) the Net Sales of the Combination Product (determined according to the method set forth above in this Section 1.54) and (y) the Applicable Fraction determined in accordance with the following:

(i) Except as otherwise set forth in this Section 1.54, the "Applicable Fraction" shall be A/(A+B), where A is the average wholesale price of the Product containing such Program Molecule as its only active ingredient when sold separately in finished form and B is the average wholesale price of the other product containing Other API and not the Program Molecule (the "Other Product") sold separately in finished form.

(ii) In the event that the average wholesale price of the Licensed Product containing such Program Molecule as its only active ingredient when sold separately in finished form can be determined but the average wholesale price of the Other Product when sold separately in finished form cannot be determined, the "Applicable Fraction" shall be A/C, where A is the average wholesale price of the Licensed Product containing such Program Molecule when sold separately in finished form and C is the average wholesale price of the Combination Product.

(iii) In the event that the average wholesale price of the Other Product when sold separately in finished form can be determined but the average wholesale price of the Licensed Product containing such Program Molecule as its only active ingredient when sold separately in finished form cannot be determined, the "Applicable Fraction" shall be (C-D)/C, where D is the average wholesale price of the Other Product when sold separately in finished form and C is the average wholesale price of the Combination Product.

(iv) In the event that the average wholesale price of neither the Licensed Product containing such Program Molecule as its only active ingredient when sold separately in finished form nor the Other Product when sold separately in finished form can be determined, the "Applicable Fraction" shall be F/(F+G), where F is the fair market value of the Licensed Product containing such Program Molecule as its only active ingredient contained in the Combination Product and G is the fair market value of all Other APIs contained in the Combination Product, as reasonably determined in good faith by the Parties.

1.55. "Objective Response". Objective Response means the demonstration of [*] or [*] or [*] or [*] or [*]. For the purposes of this Section 1.55, [*] will be based on [*] and [*] and [*]. For the avoidance of doubt, any [*], or [*] will not be considered to have demonstrated [*] for the purposes of this Section 1.55.

1.56. "Party". Party means either HPP or TransTech, on the one hand or Calithera, on the other hand; "Parties" means both HPP and TransTech, on the one hand and Calithera, on the other hand.

1.57. "Patent Rights". Patent Rights means the rights and interest in and to all issued patents and pending patent applications in any country in the Territory, including all provisionals, divisionals, continuations, renewals, continuations-in-part, patents of addition, re-examination, supplementary protection certificates, extensions, registrations or confirmation patents, restoration of patent terms, letters of patent, and reissues thereof, and foreign counterparts of the foregoing.

1.58. "Person". Person means any natural person or any corporation, company, partnership, joint venture, firm, Governmental Authority or other entity, including a Party.

1.59. "Phase I Clinical Trial". Phase I Clinical Trial means a human clinical trial in any country in the Territory that would satisfy the requirements of 21 C.F.R. § 312.21(a).

1.60. "Phase II Clinical Trial". Phase II Clinical Trial means a human clinical trial in any country in the Territory that would satisfy the requirements of 21 C.F.R. § 312.21(b).

1.61. "Phase III Clinical Trial". Phase III Clinical Trial means a human clinical trial in any country in the Territory that would satisfy the requirements of 21 C.F.R. § 312.21(c).

1.62. "Program Molecule". Program Molecule means any (a) High Point Molecule or (b) Calithera-Derived Molecule.

1.63. "Program Patent Rights". Program Patent Right means (a) all Patent Rights that (i) are Controlled by Calithera, (ii) disclose or claim (A) a composition of matter comprising a Hexokinase Inhibitor, (B) any use, or method of making of any compound or molecule described in subsection (A), or (C) inventions, results, biomarkers, assays or formulations related exclusively to Hexokinase Inhibitors or the use or testing, and (iii) are (A) conceived during the Covered Period by or on behalf of Calithera or any of its Sublicensees, or (B) in-licensed by Calithera or any of its Sublicensees from a Third Party during any portion of the Covered Period that is during the Term; and (b) Calithera's interest in the Joint Patents. Notwithstanding the foregoing, Program Patent Rights exclude all Patent Rights conceived by or on behalf of any Sublicensee prior to the Effective Date or after termination or expiration of the applicable sublicense.

1.64. "Regulatory Approval". Regulatory Approval means the granting, whether through lapse of time or otherwise, by the FDA or by a comparable Regulatory Authority of approval to market a drug product in a country in the Territory.

1.65. "Regulatory Authority". Regulatory Authority means any Governmental Authority, including the FDA, EMA or MHLW, with responsibility for granting licenses or approvals (with the exception of price approvals) necessary for the marketing and sale of pharmaceutical products in any country.

1.66. "Research Plan". Research Plan means the written plan generally describing the activities to be conducted by or on behalf of High Point pursuant to the Research Program. The initial Research Plan is attached hereto as Schedule 1.66, which may be amended from time to time as provided in Section 3.1.

1.67. "Research Program". Research Program means the conduct of the research activities described in the Research Plan by or on behalf of High Point.

1.68. "Research Program Term". Research Program Term means the twelve (12) month period commencing on the Effective Date and ending twelve (12) months after the Effective Date, unless earlier terminated pursuant to this Agreement. Calithera may discontinue the Research Program, for any reason, with at least two months written notice. In no event will the Research Program extend beyond twelve (12) months from the Effective Date without mutual agreement.

1.69. "ROW". ROW means all countries in the Territory other than the countries in the Major Markets.

1.70. "Small Molecule". Small Molecule means any organic compound or molecule with a molecular weight less than three thousand (3000) atomic mass units, other than a protein or an antibody, but including peptides, peptide analogs, metabolites, prodrugs, solvates, hydrates, esters, salts, isomers, stereoisomers, racemates, tautomers, and polymorphs thereof. A "protein" refers to a sequence of ten (10) or more amino acids joined to each other by peptide bonds or modified peptide bonds.

1.71. "Sublicensee". Sublicensee means a Third Party that has been granted a sublicense under the rights granted to Calithera pursuant to Section 2.1 of this Agreement, which rights include at least the rights to Develop a Licensed Product or to Manufacture or Commercialize a Licensed Product. Third Parties that are permitted only to (a) distribute and resell a Licensed Product, (b) re-package a Licensed Product for resale or (c) Manufacture a Licensed Product for supply to Calithera, its Affiliates or its Sublicensees (and have no other rights to Develop or Commercialize such Licensed Product) are not "Sublicensees".

1.72. "Territory". Territory means all countries of the world.

1.73. "Third Party". Third Party means any Person other than High Point or Calithera or any of their respective Affiliates.

1.74. "Valid Claim". Valid Claim means a claim in the High Point Patent Rights that Covers the applicable Licensed Product in a country and that has not (a) expired; (b) been disclaimed; (c) been cancelled or superseded, or if cancelled or superseded, has been reinstated; (d) been revoked, held invalid, or otherwise declared unenforceable or not allowable by a tribunal or patent authority of competent jurisdiction over such claim in such country from which no further appeal has or may be taken; and (e) in the case of a patent application, been pending for more than [*] after the date of its first priority filing.

1.75. Additional Definitions. Each of the following definitions is set forth in the section of this Agreement indicated below:

Definition:	**Section:**
1934 Act	Section 9.4
Abandoned Calithera Patent	Section 12.5(e)(v)
Abandoned Joint Patent	Section 8.2(c)
Abandoned Patent	Section 8.2(b)
Additional Territories	Section 8.2(b)
Agents	Section 9.1
Applicable Fraction	Section 1.54
Assignor	Section 13.9
Calithera	Preamble
Calithera Parties	Section 11.2
Calithera Sole Inventions	Section 8.1(a)
Commercialization Plan	Section 5.2
Confidential Information	Section 9.2
Confidentiality Agreements	Section 9.2
Courts	Section 13.2
Defaulting Party	Section 12.3
Development Forum or DF	Section 4.2(a)
Effective Date	Preamble
High Point	Preamble
High Point Parties	Section 11.1
High Point Sole Inventions	Section 8.1(a)
HPP	Preamble
House Marks	Section 12.5(f)
Indemnified Party	Section 11.3(a)
Indemnifying Party	Section 11.3(a)
Infringement Claim	Section 8.3(a)
Joint Inventions	Section 8.1(b)
Joint Patents	Section 8.2(c)
Other API	Section 1.12
Other Product	Section 1.54
Paragraph IV Claim	Section 8.8(a)
Quarterly Research Fee	Section 7.2(a)
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Royalty Term	Section 7.6(e)
Sole Inventions	Section 8.1(a)
Term	Section 12.1
Third Party Claims	Section 11.1
Third Party Licenses	Section 7.6(d)
TransTech	Preamble
Unelected Patent	Section 8.2(b)

ARTICLE II.
GRANTS OF RIGHTS

2.1. High Point Grants of Rights.

(a) License Grant. Subject to the terms and conditions of this Agreement, High Point hereby grants to Calithera an exclusive (even as to High Point and its Affiliates, except as set forth in Section 2.2(a)), royalty-bearing right and license, under the High Point Intellectual Property, to (i) Manufacture and use High Point Molecules to identify and synthesize Calithera-Derived Molecules, (ii) Develop High Point Molecules and Calithera-Derived Molecules into Licensed Products, and (iii) make and have made, use, offer for sale, sell, have sold, import and otherwise Commercialize or have Commercialized Program Molecules and Licensed Products in the Field in the Territory; subject to Section 2.2(a).

(b) Sublicenses. Calithera shall have the right to grant sublicenses through multiple tiers under the licenses granted to Calithera under Section 2.1(a) to its Affiliates and to Third Parties without High Point's prior written approval but with written notice to High Point, with such notice to be provided no later than ninety (90) days after the grant of each sublicense. Calithera shall provide High Point with written notice of the termination or expiration of any sublicense granted to a Third Party within thirty (30) days thereof. All sublicenses granted by Calithera hereunder shall be consistent with the terms and conditions of this Agreement. Calithera shall remain liable for breaches by its Sublicensees of any sublicense agreement; provided that in the event a breach by a Sublicensee under its sublicense causes Calithera to breach any of its obligations under this Agreement, Calithera shall have the opportunity to cure as set forth in Section 12.3.

2.2. Calithera Grants of Rights.

(a) License Grant. Subject to the terms and conditions of this Agreement, Calithera hereby grants to High Point a non-exclusive, royalty-free right and license, with the limited right to sublicense and to have made as set forth in Section 2.2(b), under the Calithera Intellectual Property and its rights under the High Point Intellectual Property as set forth in Section 2.1(a), solely to conduct, on behalf of Calithera, High Point's research responsibilities under the Research Program.

(b) Sublicenses. High Point shall have the right to grant sublicenses under the license granted to High Point under Section 2.2(a), to other Persons retained by High Point upon the prior written consent of Calithera, such consent not to be unreasonably withheld, delayed or conditioned, in each case solely to perform High Point's responsibilities under the Research Program on High Point's behalf. All permitted sublicenses of High Point hereunder shall include terms and covenants at least as favorable to and for the benefit of Calithera as those provided by High Point in the following sections of this Agreement: Sections 2.2(b), 8.1(d), 9, 10.1(b) and 10.1(c). High Point shall remain liable for breaches by its sublicensees of any sublicense agreement; provided that in the event a breach by such sublicensee under its sublicense causes High Point to breach any of its obligations under this Agreement, High Point shall have the opportunity to cure as set forth in Section 12.3.

2.3. Rights Retained by the Parties. Any rights of High Point or Calithera, as the case may be, not expressly granted to the other Party under the provisions of this Agreement shall be retained by such Party, subject to Section 2.5. Without limiting the generality of the foregoing and without limitation to Section 2.5, no right or license is granted under the High Point Intellectual Property to access or use any compound or molecule that is not a Program Molecule.

2.4. Section 365(n) of the Bankruptcy Code. All rights and licenses granted under or pursuant to any Section of this Agreement, including under Sections 2.1 and 2.2, are rights to "intellectual property" (as defined in Section 101(35A) of the Bankruptcy Code). Each of High Point and Calithera hereby acknowledges that (a) copies of research data, (b) laboratory samples, (d) product samples, (d) formulas, (e) laboratory notes and notebooks, (f) data and results related to clinical trials, (g) regulatory filings and approvals, (h) rights of reference in respect of regulatory filings and approvals, (i) pre-clinical research data and results, and (j) marketing, advertising and promotional materials, in each case that relate to such intellectual property, constitute "embodiments" of such intellectual property pursuant to Section 365(n) of the Bankruptcy Code. Each Party shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code or equivalent legislation in any other jurisdiction. Upon the bankruptcy of either Party, the other Party shall further be entitled to a complete duplicate of, or complete access to, as appropriate, any such intellectual property, and such intellectual property, if not already in its possession, shall be promptly delivered to such other Party, unless the Party in bankruptcy elects to continue, and continues, to perform all of its obligations under this Agreement.

2.5. Exclusivity. During the Term, neither High Point nor any of its controlled (as such word is defined in Section 1.2) Affiliates shall, alone or in collaboration with any other Person, [*]. During the Term, High Point shall ensure that none of its personnel or its controlled (as such word is defined in Section 1.2) Affiliates' or their personnel (a) enable or assist any other Affiliate of High Point or

any Third Party with [*] or (b) disclose any Confidential Information relating to Hexokinase Inhibitors to any Affiliate of High Point other than a controlled (as such word is defined in Section 1.2) Affiliate or an investor in High Point that is subject to obligations of non-disclosure and non-use with respect thereto.

ARTICLE III.
RESEARCH

3.1. General. Calithera shall lead, and pay all costs of, the research of Licensed Products in the Field in the Territory hereunder. High Point shall use commercially reasonable efforts to perform the Research Program in accordance with the Research Plan. The Research Plan may be amended from time to time by mutual agreement of the Parties.

3.2. High Point FTE Commitments.

(a) During the first twelve (12) months of the Research Program Term, High Point shall provide [*] to four (4) FTEs to work on the Research Program consistent with the timelines set forth in the Research Plan and Calithera shall fully fund the costs of such FTEs at the FTE Rate as provided in Section 7.2. In no event shall Calithera be responsible for funding more than four (4) FTEs per year. High Point shall be responsible for and shall provide sufficient resources, including reagents and disposables, at High Point's cost and expense, to complete all aspects of the Research Plan assigned to High Point, including synthesizing any additional High Point Molecules; provided, however, that, except as set forth in the initial Research Plan attached hereto as Schedule 1.64, High Point shall not be obligated to manufacture quantities of any Program Molecule beyond the quantity needed for research purposes, which shall not exceed the greater of the amounts listed in the initial Research Plan or [*] of each Program Molecule.

(b) High Point shall require by written agreement that all FTEs and all other High Point personnel, employees, and agents involved in the Research Program have entered into confidentiality and invention assignment agreements that are consistent with the provisions of this Agreement and shall be obligated to assign any rights they may have in any invention made during such work to High Point.

3.3. Research Program Coordinators. Calithera and High Point each shall appoint a representative (each, a "Research Program Coordinator") to serve as the primary contact between the Parties with respect to the Research Program. Each Party shall notify the other within thirty (30) days after the Effective Date of the appointment of its Research Program Coordinator and shall notify the other Party as soon as practicable upon changing this appointment. The Research Program Coordinators shall meet at least once per month during the Research Program Term or more frequently as agreed by the Parties to discuss the progress of the Research Program and interim results. Such meetings may be by teleconference or in person, with each Party responsible for its own travel expenses, at a location agreed by the Parties. Within thirty (30) days after the end of the first three (3) months of the Research Program Term, and within thirty (30) days after the end of each three (3) month period thereafter, High Point's Research Program Coordinator shall provide a written report to Calithera's Research Program Coordinator summarizing the status and interim results of the Research Program.

3.4. Calithera Contributions. Upon the reasonable request of High Point, Calithera may, but shall not be obligated to, provide High Point with scientific, development or other expertise in connection with the performance by High Point of its responsibilities under the Research Plan.

3.5. High Point Assistance. During the [*] month period immediately following the Effective Date and again during the [*] month period immediately following the Research Program Term, High Point shall provide Calithera reasonable assistance in transitioning High Point's Hexokinase Inhibitor program to Calithera at no additional cost other than reimbursement of High Point's reasonable related out-of-pocket expenses. High Point shall promptly execute all reasonable actions following Calithera's request so as not to delay any timelines set forth in the Research Plan or the Development Plan. Such assistance shall include providing Calithera with copies of all tangible materials in High Point's possession that are included in the High Point Intellectual Property or that otherwise relate to High Point's Hexokinase Inhibitor program (such as cancer cell lines and assays), subject to High Point's existing obligations to any applicable Third Party, and related information regarding High Point's Hexokinase Inhibitor program, and providing reasonable amounts of consultation regarding such materials and information and the status of High Point's Hexokinase Inhibitor program.

ARTICLE IV.
DEVELOPMENT

4.1. General. Subject to the terms of this Agreement, including the requirements of ARTICLE VI, Calithera shall be solely responsible for, and pay all costs of, the Development of Program Molecules and Licensed Products in the Field in the Territory, and for Manufacture of all Program Molecules and Licensed Products to support such Development, and shall use Commercially Reasonable Efforts to perform such Development in accordance with the Development Plan. Calithera will provide High Point with a summary clinical Development Plan for the Program Molecules and Licensed Products prepared at least annually and updated as appropriate; such plans may be redacted for proprietary information as well as information that is not relevant to Program Molecules or Licensed Products.

4.2. Development Forum. The Parties hereby establish a forum for communications and discussions regarding the Development Plan (the "Development Forum" or "DF").

(a) Composition of the Development Forum. The Development Forum shall be comprised of an equal number of representatives of each Party which, unless the Parties otherwise agree, shall be two (2) representatives of each Party. Each Party shall notify the other within thirty (30) days after the Effective Date of the appointment of its representatives to the DF, which representative shall have the requisite technical knowledge and experience to oversee Development of Program Molecules and Licensed Products and the requisite seniority to make decisions regarding such Development on behalf of such Party. Each Party may change its representatives to the DF from time to time in its sole discretion, effective upon notice to the other Party of such change. These representatives shall have ongoing familiarity with and a technical understanding of the Development Plan activities. Additional representatives or consultants may from time to time, by mutual consent of the Parties, be invited to attend DF meetings. The DF shall be chaired by a representative of Calithera. Each Party shall bear its own expenses related to the attendance of such meetings by its representatives.

(b) Meetings. The DF shall meet in accordance with a schedule established by mutual written agreement of the Parties or upon the reasonable request of Calithera, but no less frequently than [*] during the Development Term, with the location for such meetings alternating between High Point and Calithera facilities in the United States (or such other location as may be agreed by the Parties), with each Party paying for its own travel expenses. Alternatively, the DF may meet by means of teleconference, videoconference or other similar communications equipment as the Parties may agree.

(c) Scope of Development Forum. The DF's role shall be limited to communications and discussions regarding the Development of Program Molecules and Licensed Products in the Field. Within such scope the DF may: (i) confer regarding the status of Development Plan activities; (ii) review and discuss amendments to the Development Plan; and (iii) discuss such other matters relating to the Development of Program Molecules and Licensed Products in the Field as either Party may bring before the DF. The DF shall have no decision-making authority.

4.3. Exchange of Information Regarding Development. During the Development Term, Calithera shall provide High Point, through the DF, with information and data relating to Calithera's Development of Program Molecules and Licensed Products in the Field. In addition, Calithera shall, promptly upon request by High Point, provide High Point with additional information reasonably requested by High Point relating to Calithera's Development of Program Molecules and Licensed Products in the Field. Without limiting the generality of the foregoing, at least [*] during the period after the Development Term for so long as Calithera continues to Develop any Program Molecule or Licensed Product for an Indication (other than the Indication(s) for which the applicable Licensed Product has received Regulatory Approval), Calithera shall provide High Point with a reasonably detailed report describing Calithera's Development activities and the summary results thereof with respect to all Program Molecules and Licensed Products. Notwithstanding anything to the contrary, this Section 4.3 shall be subject in all respects to ARTICLE IX.

ARTICLE V.
COMMERCIALIZATION

5.1. General. Subject to the terms of this Agreement, including the requirements of ARTICLE VI, Calithera shall be solely responsible for, and pay all costs of, the Commercialization of Licensed Products in the Field in the Territory, and for Manufacture of all Licensed Products to support such Commercialization.

5.2. Commercialization Plans. During the Royalty Term with respect to each Licensed Product, Calithera shall provide High Point at least once per year with a summary of the Commercialization activities to be conducted by or on behalf of Calithera and its

Affiliates and Sublicensees (to the extent known to Calithera) with respect to such Licensed Product in the Major Markets, taken as a whole, during the next year (each such plan, a "Commercialization Plan").

ARTICLE VI.
DILIGENCE

6.1. Commercially Reasonable Efforts. During the Term, subject to Section 6.3, Calithera shall use Commercially Reasonable Efforts to research, Develop, seek Marketing Authorizations for, Manufacture and Commercialize at least one Program Molecule and Licensed Product in the Territory.

6.2. Specific Efforts with Respect to Program Molecules and Licensed Products. Subject to Section 6.3, Calithera shall achieve [*], by the corresponding deadlines (subject to Section 13.11) with respect to at least one Program Molecule or Licensed Product set forth in the table below:

Diligence Milestone	Deadline
[*]	[*]

* For purposes of (b) above, [*] means a [*] that:

[*]

For clarity, Calithera shall not be deemed to be in breach of its obligations under this Section 6.2 for failure to meet a diligence milestone by the applicable deadline if (A) such deadline has been extended pursuant to Section 6.3, (B) Calithera can demonstrate to High Point's reasonable satisfaction that Calithera is actively pursuing ongoing studies designed to achieve such diligence milestone by such extended deadline, and (C) Calithera achieves such diligence milestone by such extended deadline (which may be subject to further extension pursuant to Section 6.3).

6.3. Failure to Meet Diligence Obligations. If Calithera fails to meet its obligations under Section 6.1 or 6.2 in any material respect, then High Point shall notify Calithera of such failure and High Point shall have the right to terminate this Agreement pursuant to Section 12.3 (subject to the opportunity to cure as set forth therein) in the case of a breach under Section 6.1 or Section 6.2. Notwithstanding the foregoing, if such failure is due to causes that are beyond the reasonable control of Calithera, including due to regulatory action or delay, low patient enrollment, safety concerns, issues with chemistry, manufacturing and controls (CMC), force majeure, delays due to an institutional review board, scientific or legal reasons or delays caused by High Point, its Affiliates or a Third Party, notwithstanding Calithera's good faith efforts to achieve those milestones, then, if Calithera promptly notifies High Point in writing of any such delay and the cause and anticipated duration thereof, Calithera not be deemed in default or breach of this Agreement and the deadlines for achieving those milestones will be deemed automatically extended by the time of the delay reasonably attributable to such applicable causes.

ARTICLE VII.
FINANCIAL PROVISIONS

7.1. Initial License Payment. Calithera shall make a one-time payment to HPP of Six Hundred Thousand Dollars ($600,000) no later than thirty (30) days after the Effective Date as upfront consideration for the license granted hereunder.

7.2. Research Program. On or prior to the fifth (5th) Business Day after the end of the first Calendar Quarter following the Effective Date, HPP shall submit an invoice and Calithera shall pay HPP within twenty-five (25) days after receipt of such invoice, a Quarterly Research Fee for the then-ended first Calendar Quarter of the Research Program Term or portion thereof, as applicable. Thereafter, on the last day of each Calendar Quarter during the portion of the Research Program Term covered by the Research Plan, HPP shall submit an invoice, and Calithera shall pay HPP within twenty-five (25) days after receipt of such invoice, a Quarterly Research Fee for such Calendar Quarter of the Research Program Term. As used in this Agreement, "Quarterly Research Fee" means the amount determined by multiplying the FTE Rate by the number of FTE hours to be contributed by High Point pursuant to the Research Plan during the applicable Calendar Quarter or portion thereof of the Research Program Term. For purposes of clarity, the maximum amounts payable by Calithera to HPP for FTEs annually, if High Point provides the maximum of four (4) FTEs, is set forth in Schedule 7.2(a) and the minimum amounts payable by Calithera to HPP annually, if High Point provides the minimum of [*] FTEs,

is set forth in Schedule 7.2(b). The minimum and maximum Quarterly Research Fee for each Calendar Quarter of the Research Program Term is set forth in Schedule 7.2(c).

7.3. Development, Manufacturing and Commercialization Costs. As between the Parties, Calithera shall be solely responsible for all costs of Developing, Manufacturing and Commercializing Licensed Products.

7.4. Event Milestone Payments. Calithera shall make the non-refundable, non-creditable payments to HPP set forth below not later than thirty (30) days after the earliest date on which the corresponding milestone event set forth below is first achieved by a Licensed Product for a disease or condition in the Field:

Milestone Event	Payment
(a)[*]	$[*]
(b)[*]	$[*]
(c)[*]	$[*]
(d)[*]	(i) $[*]
	(ii) $[*]
	(iii) $[*]
(e)[*]	$[*]
(f)[*]	$[*]
(g)[*]	$[*]
(h)[*]	$[*]
(i)[*]	$[*]
(j)[*]	$[*]
(k)[*]	$[*]
(l)[*]	$[*]
(m)[*]	$[*]

For purposes of clarity, the milestone payments set forth in this Section 7.4 shall be paid only once, upon the first achievement of the applicable milestone event by the first Licensed Product to achieve such milestone event, except that, if Regulatory Approval is obtained for a first Licensed Product, and Calithera or any of its Affiliates or Sublicensees subsequently commence Development of an additional Licensed Product, then the milestones payments for each of the milestone events listed in Section 7.4(f) ([*]) through (m) ([*]) above shall be payable at [*] of the corresponding milestone payment amount for the first subsequent Licensed Product that achieves such milestone event. For purposes of clarity, the maximum potential payment by Calithera under this Section 7.4 for each milestone shall be one hundred percent (100%) of each milestone payment set forth in (a) though (e) and [*] of each milestone payment set forth in (f) through (m) (*i.e.*, one hundred percent (100%) for the first Licensed Product to achieve such milestone and an additional [*] for the second Licensed Product to achieve such milestone).

If, with respect to any particular Licensed Product, a later-listed milestone event in Section 7.4 (other than milestone (d) and each of the milestones (h) through (m), namely the [*] for additional Indication milestones) is achieved by such Licensed Product prior to the achievement by such Licensed Product of an earlier-listed milestone event in Section 7.4 (other than milestone (d) and each of the milestones (h) through (m), namely the [*] for additional Indication milestones), then the milestone payment for such earlier-listed milestone event for such Licensed Product shall be due and payable simultaneously with the payment for achievement of such subsequent milestone event, except that (x) [*] shall not be deemed to trigger any milestone payment [*], and (y) [*] shall not be deemed to trigger any other milestone payment.

If Calithera elects to cease Development of any Licensed Product, then the milestone payments previously made by Calithera under this Section 7.4 shall be fully creditable against the achievement of such milestone by a subsequent Licensed Product.

7.5. Sales Milestone Payments. In addition to all other amounts payable under this Agreement, Calithera shall make non-refundable, non-creditable milestone payments to HPP related to the marketing and sale of Licensed Products in the Territory, in the amounts provided below:

Milestone Event	Payment
(a) Aggregate Net Sales of a Licensed Product in the Territory of greater than $[*] in a Calendar Year	$[*]
(b) Aggregate Net Sales of a Licensed Product in the Territory of greater than $[*] in a Calendar Year	$[*]
(c) Aggregate Net Sales of a Licensed Product in the Territory of greater than $[*] in a Calendar Year	$[*]

For purposes of clarity, each of the milestone payments set forth in this Section 7.5 shall be paid only once and the maximum potential payment by Calithera under this Section 7.5 for each milestone shall be equal to one hundred percent (100%) of each milestone payment. A maximum of one milestone event specified in Section 7.5(a), (b), and (c) above will be payable by Calithera for any given Calendar Year. If two or more of such milestone events are achieved in different Calendar Quarters in the same Calendar Year, then Calithera shall pay each corresponding milestone payment within the time period specified in Section 7.7, but may credit any milestone payment previously made for such Calendar Year against the subsequent milestone payment for the same Calendar Year, such that, for such subsequent milestone event, Calithera shall only be obligated to pay the difference between the milestone payment for the subsequent event and the aggregate of all other sales milestone payments made during such Calendar Year corresponding to the earlier event(s), and the earlier milestone payments may become payable if and when achieved in a subsequent Calendar Year. If two or more of such milestone events are achieved in the same Calendar Quarter, Calithera shall only be obligated to pay the greater of the corresponding milestone payments for such Calendar Quarter and the earlier milestone payments may become payable if and when achieved in a subsequent Calendar Year.

For example, upon the first achievement of the milestone event set forth in Section 7.5(a), Calithera shall make the $[*] payment in accordance with Section 7.7. If the milestone event set forth in Section 7.5(b) is also achieved during the same Calendar Year, Calithera shall make the $[*] payment for that milestone event in accordance with Section 7.7, but Calithera may credit the $[*] it paid for achievement of the milestone event set forth in Section 7.5(a) against such amount resulting in a net payment of $[*]. In this example, each of the milestone events set forth in Sections 7.5(a) and (c) would become payable in subsequent Calendar Years if and when it is achieved.

7.6. Licensed Product Royalties. Calithera shall pay to HPP royalties on Net Sales of Licensed Products in the Territory as follows:

Calendar Year Net Sales of Licensed Products	Royalty Rate
Less than or equal to $[*]	[*]%
Greater than $[*] and less than or equal to $[*]	[*]%
Greater than $[*] and less than or equal to $[*]	[*]%
Greater than $[*]	[*]%

(a) Applicability of Royalty Rates to Net Sales in the Territory. Royalties under this Section 7.6 on aggregate Net Sales of Licensed Products in the Territory in a Calendar Year shall be paid at the rate applicable to the portion of Net Sales within each of the Net Sales levels during such Calendar Year. For example, if, during a Calendar Year, aggregate Net Sales of Licensed Products were equal to $[*], then the royalties payable by Calithera under this Section 7.6 would be calculated by adding (i) the royalties with respect to the first $[*] at the first-level percentage of [*] percent ([*]%) ($[*] × [*] = $[*]), and (ii) the royalties with respect to the next $[*] at the second-level percentage of [*] percent ([*]%) ($[*] × [*] = $[*]), for a total royalty of $[*].

(b) Royalty Term. Calithera's royalty obligations to HPP under this Section 7.6 shall commence on a country-by-country and Licensed Product-by-Licensed Product basis upon the First Commercial Sale of such Licensed Product in such country and shall expire on a country-by-country basis and Licensed Product-by-Licensed Product basis on the later of: (i) the expiration of Legal Exclusivity for such Licensed Product in such country (the "Exclusivity Royalty Term") or (ii) the tenth (10th) anniversary of the date

of the First Commercial Sale by Calithera or any of its Affiliates or Sublicensees to a non-Sublicensee Third Party of such Licensed Product in such country (the "Royalty Term"). Upon expiration of the Royalty Term for a given Licensed Product in a given country, Calithera's license under Section 2.1(a) shall become fully paid-up and perpetual with respect to Commercialization of such Licensed Product in such country.

(c) Royalty Adjustment for Generic Competition or Expiration of Exclusivity Royalty Term. If, with respect to a particular Licensed Product in a particular country in a particular Calendar Quarter, the Exclusivity Royalty Term has expired, then the royalties payable pursuant to this Section 7.6 may be reduced for such Calendar Quarter to the extent required to comply with applicable Law, if any, governing royalties payable on Licensed Products after expiration of all issued High Point Patent Rights Covering such Licensed Products, and provided, that (i) if the Generic Products have a market share during such Calendar Quarter of more than [*] and less than or equal to [*] of the aggregate market share of the corresponding Licensed Product(s) and Generic Product(s) (based on data provided by IMS International, or if such data is not available, such other reliable data source as reasonably determined by Calithera and agreed by HPP (such agreement not to be unreasonably withheld)) as measured by unit sales, then the royalty rate pursuant to Section 7.6(a) for such Licensed Product(s) in such country shall be reduced for such Calendar Quarter to [*] of Net Sales, and (ii) if the Generic Product(s) have a market share of more than [*] (as calculated in the preceding proviso) during such Calendar Quarter, then [*] royalty shall be payable under this Section 7.6 on Net Sales during such Calendar Quarter of such Licensed Product(s) in such country.

(d) Third Party Licenses. If Calithera reasonably determines to obtain a patent or intellectual property license from a Third Party that is required or reasonably needed to make, sell or use a Licensed Product in the Field in a given country ("Third Party License"), then Calithera may offset [*] of any payments (including upfront payments, milestones and royalties) paid under such Third Party License to obtain such rights for such Licensed Product in such country against royalties payable to HPP hereunder in respect of Net Sales of such Licensed Product in such country; provided, however, in no event shall such credit cause the royalties paid to HPP for any particular Calendar Quarter to be reduced to less than [*] of the amount that would otherwise be payable to HPP for such Calendar Quarter pursuant to Section 7.6 with respect to such Licensed Product in such country. Notwithstanding the foregoing provisions of this Section 7.6(d), [*] to the extent any Third Party Licenses relate to [*].

(e) Aggregate Royalty Reductions. Notwithstanding anything to the contrary in this Section 7.6, in no event shall the royalties otherwise payable under Section 7.6(a) with respect to any given Net Sales of a Licensed Product in a country in the Territory be reduced as a result of the royalty reduction provisions of Sections 7.6(c) and (d) to be less than [*].

7.7. Reports; Payments. Within [*] days after the end of each Calendar Quarter other than the last Calendar Quarter of Calithera's fiscal year, and within [*] days after the end of the last Calendar Quarter of Calithera's fiscal year, in which there are Net Sales giving rise to a payment obligation under Section 7.5 or 7.6, Calithera shall submit to HPP a report identifying, for each Licensed Product, the gross amount of sales of such Licensed Product for each country for such Calendar Quarter and the resulting royalties and the sales milestone payable to HPP, including a description of any deductions made from the gross amount of sales to calculate Net Sales and any royalty reductions made as a result of Sections 7.6(d) and 7.6(e). Concurrently with each such report, Calithera shall pay to HPP all royalties and sales milestones payable by it under Sections 7.5 and 7.6.

7.8. Books and Records; Audit Rights. Calithera shall keep complete and accurate records of the underlying revenue and expense data relating to the calculations of Net Sales and payments required by Sections 7.5 and 7.6. HPP shall have the right, once annually at its own expense, to have an independent, certified public accounting firm, selected by HPP and reasonably acceptable to Calithera, review any such records of Calithera in the location(s) where such records are maintained by Calithera upon reasonable notice (which shall be no less than thirty (30) days prior notice) and during regular business hours and under obligations of strict confidence, for the sole purpose of verifying the basis and accuracy of payments made under Sections 7.5 and 7.6 within the [*] period preceding the date of the request for review. The report of such accounting firm shall be limited to a certificate stating whether any report made or payment submitted by Calithera during such period is accurate or inaccurate and the actual amounts of Net Sales and royalties due for such period. Calithera shall receive a copy of each such report concurrently with receipt by HPP. Should such inspection lead to the discovery of a discrepancy to HPP's detriment, Calithera shall pay within fifteen (15) Business Days after its receipt from the accounting firm of the certificate the amount of the discrepancy. HPP shall pay the full cost of the review unless the underpayment of royalties is greater than [*] of the amount due for the applicable period, in which case Calithera shall pay the reasonable cost charged by such accounting firm for such review. Any overpayment of royalties by Calithera revealed by an examination shall be fully creditable against future royalty payments.

7.9. Taxes. HPP shall pay any and all taxes levied on account of all payments it receives under this Agreement. If laws or regulations require that taxes be withheld, Calithera will (a) deduct those taxes from the remittable payment, (b) timely pay the taxes to the proper taxing authority, and (c) send proof of payment to HPP within thirty (30) days after receipt of confirmation of payment

from the relevant taxing authority. Calithera will reasonably cooperate with HPP to obtain the benefit of any applicable tax law or treaty, including the pursuit of any refund or credit of such tax to HPP.

7.10. Payment Method and Currency Conversion. All payments to be made by Calithera to HPP shall be in immediately available funds via either a bank wire transfer, an ACH (automated clearing house) mechanism, or any other means of electronic funds transfer, at Calithera's election, to HPP's bank account at [*], or to such other bank account as HPP shall designate in a notice at least ten (10) days before the payment is due. HPP's wiring instructions are set forth on Schedule 7.10. For the purposes of determining the amount of any sales milestone payment under Section 7.5 or royalties due for the relevant Calendar Quarter under Section 7.6, the amount of Net Sales in any foreign currency shall be converted into United States dollars in a manner consistent with Calithera's normal practices used to prepare its audited financial reports; provided that such practices use a widely accepted source of published exchange rates. Upon request by HPP, Calithera shall disclose the source for the rates of exchange used.

7.11. Blocked Payments. If by reason of applicable Laws in any country in the Territory, it becomes impossible or illegal for Calithera or its Affiliates or Sublicensees to transfer, or have transferred on its behalf, milestones, royalties or other payments to HPP, Calithera shall promptly notify HPP of the conditions preventing such transfer and such milestones, royalties or other payments shall be deposited in local currency in the relevant country to the credit of HPP in a recognized banking institution designated by HPP or, if none is designated by HPP within a period of thirty (30) days, in a recognized banking institution selected by Calithera or its Affiliate or Sublicensee, as the case may be, and identified in a notice given to HPP. If so deposited in a foreign country, Calithera shall provide, or cause its Affiliate or Sublicensee to provide, reasonable cooperation to HPP so as to allow HPP to assume control over such deposit as promptly as practicable.

7.12. Late Payments. If a Party shall fail to make a timely payment pursuant to the terms of this Agreement, interest shall accrue on the past due amount as follows:

(a) for amounts thirty (30) or fewer days past due, the rate applied shall be the thirty (30) day U.S. dollar LIBOR rate effective for the date that payment was due (as published in the Wall Street Journal), computed for the actual number of days the payment was past due; and

(b) for amounts greater than thirty (30) days past due, the rate applied shall be the thirty (30) day U.S. dollar LIBOR rate effective for the date that payment was due (as published in the Wall Street Journal) plus [*] per annum, computed for the actual number of days the payment was past due.

ARTICLE VIII.
INTELLECTUAL PROPERTY OWNERSHIP, PROTECTION AND RELATED MATTERS

8.1. Ownership of Inventions.

(a) Sole Inventions. Each Party shall exclusively own all inventions made solely by such Party, its employees, agents and consultants ("Sole Inventions"). Sole Inventions made solely by Calithera, its employees, agents and consultants are referred to herein as "Calithera Sole Inventions". Sole Inventions made solely by High Point, its employees, agents and consultants shall be solely owned by HPP and are referred to herein as "High Point Sole Inventions".

(b) Joint Inventions. Calithera and HPP shall jointly own all inventions made jointly by employees, agents and consultants of Calithera, on the one hand, and employees, agents and consultants of High Point, on the other hand, on the basis of each of Calithera and HPP having one-half of an undivided interest in the whole ("Joint Inventions"). Each Party, on behalf of itself and its Affiliates and permitted sublicensees, hereby assigns, agrees to assign or causes to be assigned sufficient of its and its Affiliates' and its permitted sublicensees' right, title and interest in, to and under any Joint Invention as necessary to effect the foregoing joint ownership allocation or any other assignment or license obligation under this Agreement with respect to such Joint Invention. HPP hereby acknowledges and agrees that all of its right, title and interest in, to and under Joint Inventions shall become part of the High Point Intellectual Property and subject to the license set forth in Section 2.1(a).

(c) Inventorship. For purposes of determining whether an invention is a Calithera Sole Invention, a High Point Sole Invention or a Joint Invention, and for purposes of determining inventions with respect to Program Patent Rights, questions of inventorship shall be resolved in accordance with United States patent Laws.

(d) Further Assurances. Each Party shall, and shall cause its Affiliates and permitted sublicensees to, enter into assignment agreements pre-approved and reasonably acceptable to the other Party with Persons involved in the Research Program to obtain such automatic assignment of future inventions, and shall execute all documents necessary to effect such assignment.

8.2. Prosecution and Maintenance of Patent Rights.

(a) Prosecution of Calithera Patent Rights. Except as set forth in Section 12.5(e)(iv), Calithera shall have the sole right to prepare, file, prosecute and maintain the Calithera Patent Rights (including the Program Patent Rights) other than the Joint Patents.

(b) Prosecution of High Point Patent Rights. In accordance with this Section 8.2(b), unless Calithera and HPP otherwise agree in writing and for so long as Calithera retains exclusive rights hereunder, Calithera shall have the right, but not the obligation, and High Point shall reasonably cooperate, with respect to, the preparation, filing, prosecution and maintenance of the High Point Patent Rights (other than the Joint Patents), using Foley Hoag LLP or other counsel of Calithera's choice reasonably acceptable to HPP. The out-of-pocket costs and expenses incurred to prepare, file, prosecute and maintain such High Point Patent Rights shall be [*]. Calithera shall notify HPP at least forty-five (45) days prior to the deadline for entering into national phase with respect to any PCT application included in such High Point Patent Rights and identify the countries or regions Calithera intends to enter. No later than fifteen (15) days after receiving notice from Calithera of its intent to enter into national phase, HPP shall provide Calithera with a list of any additional countries or regions ("Additional Territories") in which HPP would like Calithera to file and Calithera shall consider such list in good faith. If Calithera elects to not enter the national phase in one or more Additional Territories, HPP may elect to enter the national phase in such Additional Territories [*], any such application or patent (the "Unelected Patent") shall [*], and HPP shall have the sole right, but not the obligation, to prepare, file, prosecute and maintain such Unelected Patent.

HPP shall have access to all documentation, filings and communications to or from the respective patent offices, at reasonable times and upon reasonable written notice (which notice may be in e-mail). Calithera shall keep HPP informed of the status of all pending patent applications that pertain to any Program Molecule or any Licensed Product. Calithera, its agents and attorneys shall consider in good faith comments of HPP regarding any aspect of such patent prosecutions. In the event that HPP believes that such patent strategy would have an unreasonable, adverse, economic effect on High Point's rights under this Agreement (including inventorship or the value of any rights that HPP may obtain under Section 12.5), HPP may elect to submit the dispute to an independent Third Party patent counsel mutually agreed by Calithera and HPP, at HPP's cost and expense. If such patent counsel determines that such patent strategy would have an unreasonable, adverse economic effect on High Point's rights under this Agreement (including inventorship or the value of any rights that HPP may obtain under Section 12.5), then Calithera shall incorporate comments and adjust patent strategy as advised by such independent Third Party patent counsel, and Calithera shall [*]. If Calithera determines to abandon any High Point Patent Right (other than a Joint Patent) in all or any portion of the Territory (the "Abandoned Patent"), Calithera shall notify HPP of such determination, no later than thirty (30) days before any deadline for further action to avoid abandonment. If HPP wishes to continue to prosecute and maintain the Abandoned Patent, Calithera shall have the option to continue to prosecute and maintain the Abandoned Patent or allow HPP to have the sole right, but not the obligation, to continue to prosecute and maintain the Abandoned Patent [*], which for purposes of clarity, shall [*] set forth in this Agreement. If HPP is prosecuting and maintaining the Abandoned Patent and High Point determines to abandon such Abandoned Patent, the foregoing rights of HPP set forth in this Section 8.2(a) shall apply to Calithera *mutatis mutandis*. Notwithstanding anything to the contrary, Calithera shall have the option to regain control of prosecution and maintenance of an Abandoned Patent at any time, subject to [*] and [*] for such Abandoned Patent. If either Calithera or HPP elects to maintain any Abandoned Patent or Unelected Patent, the other shall reasonably cooperate to transfer such maintenance and prosecution thereof.

(c) Prosecution of Joint Patents. Calithera shall be responsible for obtaining, preparing, filing, prosecuting and maintaining Patent Rights, in appropriate countries in the Territory, including the countries reasonably requested by HPP, Covering Joint Inventions ("Joint Patents"). The out-of-pocket costs and expenses incurred to obtain, prosecute and maintain Joint Patents shall be [*]. Calithera shall keep HPP informed of the status of all pending Joint Patents. In the event that HPP believes that such patent strategy would have an unreasonable, adverse, economic effect on High Point's rights under this Agreement (including inventorship or the value of any rights that HPP may obtain under Section 12.5), HPP may elect to submit the dispute to an independent Third Party patent counsel mutually agreed by Calithera and HPP, at HPP's cost and expense. If such patent counsel determines that such patent strategy would have an unreasonable, adverse economic effect on High Point's rights under this Agreement (including inventorship or the value of any rights that HPP may obtain under Section 12.5), then Calithera shall incorporate comments and adjust patent strategy as advised by such independent Third Party patent counsel, and Calithera shall [*]. Calithera shall not abandon any Joint Patent without at least thirty (30) days' prior notice to HPP. If Calithera determines to abandon any Joint Patent in all or any portion of the Territory (the "Abandoned Joint Patent"), Calithera shall notify HPP of such determination. If HPP wishes to continue to prosecute and maintain the Abandoned Joint Patent, Calithera shall have the option to continue to prosecute and maintain the Abandoned Joint Patent at its expense or allow HPP to have the sole right, but not the obligation, to continue to prosecute and maintain the Abandoned

Joint Patent [*]. Notwithstanding anything to the contrary, Calithera shall have the option to regain control of prosecution and maintenance of an Abandoned Joint Patent at any time, subject to [*] and [*] for such Abandoned Joint Patent. If Calithera or HPP elects to continue to prosecute and maintain any Abandoned Joint Patent, the other shall reasonably cooperate to transfer prosecution and maintenance of such Abandoned Joint Patent.

(d) The Parties acknowledge that Calithera has the right, but not the obligation, at its sole discretion, to submit applicable High Point Patent Rights, Calithera Patent Rights and Joint Patents, and other relevant patent information, to all applicable Governmental Authorities for listing in the Orange Book or any similar listing or statutory or regulatory requirement in any country or regulatory jurisdiction outside the United States. High Point or its Affiliates, as applicable, shall provide, [*], all support reasonably necessary for Calithera to exercise its rights under this Section 8.2(d). "Orange Book" means the United States Food and Drug Administration publication titled, "Approved Drug Products with Therapeutic Equivalence Evaluations", as it may be amended from time to time.

8.3. Third Party Infringement.

(a) Notice. Each Party shall promptly report in writing to the other Party during the Term any known or suspected (i) infringement of any of the High Point Patent Rights (including any Abandoned Patent or Unelected Patent) or Joint Patents (including any Abandoned Joint Patent), or (ii) unauthorized use or misappropriation of any of the High Point Know-How or Know-How in Joint Inventions (an "Infringement Claim") of which such Party becomes aware, and shall provide the other Party with all available evidence supporting such known or suspected infringement or unauthorized use.

(b) Initial Right to Enforce. Calithera shall have the sole right to enforce the Calithera Patent Rights (including the Program Patent Rights) other than the Joint Patents. Calithera shall have the first right, but not the obligation, to initiate a suit or take other appropriate action that it believes is reasonably required to protect (i.e., prevent or abate actual or threatened infringement or misappropriation of) or otherwise enforce the High Point Intellectual Property (including any Abandoned Patent or Unelected Patent), and the Parties' rights in Joint Inventions and Joint Patents (including any Abandoned Joint Patent). Any suit by Calithera shall be either in the name of HPP or its Affiliate, the name of Calithera or its Affiliate, or jointly by Calithera, Calithera's Affiliate(s), HPP and HPP's Affiliate(s), as may be required by the Law of the forum. For this purpose, High Point shall execute such legal papers and cooperate in the prosecution of such suit as may be reasonably requested by Calithera; provided that [*] in connection with such cooperation.

(c) Step-In Right. If Calithera does not initiate a suit or take other appropriate action that it has the initial right to initiate or take pursuant to Section 8.3(b) with respect to the High Point Patent Rights (including any Abandoned Patent or Unelected Patent), Joint Patents (including any Abandoned Joint Patent), High Point Know-How or Know-How in Joint Inventions, against a Third Party as to which the Infringement Claim concerns a product for which a Third Party is seeking or has received marketing approval from the FDA or a corresponding foreign regulatory authority, HPP may provide Calithera with notice of HPP's intent to initiate a suit or take other appropriate action. If HPP provides such notice and Calithera does not initiate a suit or take other appropriate action to protect the High Point Patent Rights (including any Abandoned Patent or Unelected Patent), Joint Patents (including any Abandoned Joint Patent), High Point Know-How or Know-How in Joint Inventions within sixty (60) days after receipt of such notice from HPP, then HPP shall have the right to initiate a suit or take such other appropriate action that HPP believes is reasonably required to protect the High Point Patent Rights (including any Abandoned Patent or Unelected Patent), Joint Patents (including any Abandoned Joint Patent), High Point Know-How or Know-How in Joint Inventions. Any suit by HPP shall be either in the name of HPP or its Affiliate, the name of Calithera or its Affiliate, or jointly by Calithera, Calithera's Affiliate(s), HPP and HPP's Affiliate(s), as may be required by the Law of the forum. For this purpose, Calithera shall execute such legal papers and cooperate in the prosecution of such suit as may be reasonably requested by HPP; provided that [*] in connection with such cooperation.

(d) Conduct of Certain Actions; Costs. The Party initiating suit shall have the sole and exclusive right to select counsel for any suit initiated by it pursuant to Section 8.3(b) or 8.3(c). The initiating Party shall assume and pay all of its own out-of-pocket costs incurred in connection with any litigation or proceedings initiated by it pursuant to Sections 8.3(b) and 8.3(c), including the fees and expenses of the counsel selected by it. The other Party shall have the right to participate and be represented in any such suit by its own counsel at its own expense.

(e) Recoveries. In the event a Party assumes control over enforcing any Infringement Claim, the other Party (which, in the case of High Point, shall be HPP) shall be entitled to [*] any damages, settlements, accounts of profits, or other financial compensation recovered from a Third Party based upon any such Infringement Claim after deducting from the amount recovered the controlling Party's actual out-of-pocket expenses (including reasonable counsel fees and expenses) incurred in pursuing such Infringement Claim, and the controlling Party may retain the balance.

8.4. Patent Invalidity Claim. Each of the Parties shall promptly notify the other in the event of any legal or administrative action by any Third Party against a High Point Patent Right (including an Abandoned Patent or Unelected Patent) or Joint Patent (including an Abandoned Joint Patent) of which it becomes aware, including any nullity, revocation, reexamination, *inter partes* review, post-grant review, opposition, interference, derivation or compulsory license proceeding. Calithera shall have the sole right to defend against any such action involving a Calithera Patent Right or Program Patent Right. Calithera shall have the first right, but not the obligation, to defend against any such action involving a High Point Patent Right (including an Abandoned Patent or Unelected Patent) or Joint Patent (including an Abandoned Joint Patent) using counsel of its choice and the costs of any such defense shall be [*]. High Point, upon request of Calithera, agrees to join in any such action and to cooperate reasonably with Calithera; provided that [*] in connection with such cooperation. If Calithera does not defend against any such action involving such Patent Right, then HPP shall have the right, but not the obligation, to defend such action and any such defense shall be [*]. Calithera, upon request of HPP, agrees to join in any such action and to cooperate reasonably with HPP; provided that [*] in connection with such cooperation.

8.5. Patent Term Extensions. Calithera shall have the exclusive right, and shall use Commercially Reasonable Efforts, to seek patent term extensions or supplemental patent protection, including supplementary protection certificates, in any country in the Territory in relation to the Licensed Products [*]. High Point and Calithera shall cooperate in connection with all such activities, and Calithera, its agents and attorneys will give due consideration to all timely suggestions and comments of HPP regarding any such activities; provided that all final decisions shall be made by Calithera.

8.6. Patent Marking. Calithera shall comply with the patent marking statutes in each country in which the Licensed Product is sold by Calithera, its Affiliates or its Sublicensees.

8.7. Interpretation of Patent Judgments. If any claim relating to a patent under the High Point Patent Rights (including an Abandoned Patent or Unelected Patent) or Joint Patent (including an Abandoned Joint Patent) becomes the subject of a judgment, decree or decision of a court, tribunal, or other authority of competent jurisdiction in any country, which judgment, decree, or decision is or becomes final (there being no further right of review) and adjudicates the validity, enforceability, scope, or infringement of the same, the construction of such claim in such judgment, decree or decision shall be followed thereafter in such country in determining whether a product is a Licensed Product hereunder, not only as to such claim but also as to all other claims in such country to which such construction reasonably applies. If at any time there are two or more conflicting final judgments, decrees, or decisions with respect to the same claim, the decision of the higher tribunal shall thereafter control, but if the tribunals be of equal rank, then the final judgment, decree, or decision more favorable to such claim shall control unless and until the majority of such tribunals of equal rank adopt or follow a less favorable final judgment, decree, or decision, in which event the latter shall control.

8.8. Certification under Drug Price Competition and Patent Restoration Act.

(a) Notice. If a Party becomes aware of any certification filed pursuant to 21 U.S.C. § 355(b)(2)(A) or 355(j)(2)(A)(vii)(IV) (or any amendment or successor statute thereto) claiming that any High Point Patent Rights (including an Abandoned Patent or Unelected Patent) Covering a Licensed Product in the Field or Joint Patents (including an Abandoned Joint Patent), are invalid or otherwise unenforceable, or that infringement will not arise from the manufacture, use, import or sale of a product by a Third Party (a "Paragraph IV Claim"), such Party shall promptly notify the other Party in writing within five (5) Business Days after its receipt thereof.

(b) Control of Response. Calithera shall have the right, but not the obligation, to initiate patent infringement litigation for such Paragraph IV Claim, [*]. If Calithera elects not to assume control over enforcing any Paragraph IV Claim, Calithera shall notify HPP as soon as practicable but in any event not later than ten (10) days before the first action required to enforce or preserve such Paragraph IV Claim so that HPP may, but shall not be required to, assume sole control over enforcing such Paragraph IV Claim using counsel of its own choice. The Parties shall reasonably cooperate in the prosecution of any Paragraph IV Claim, and share any compensation recovered as a result of such prosecution, as set forth in Section 8.3(e) above; provided that [*] in connection with such cooperation.

8.9. Consents as to Joint Inventions and Joint Patents.

(a) During the Term, (i) High Point hereby consents to Calithera having the sole right and authority to control the licensing of the Joint Inventions and Joint Patents and having the rights to prepare, file, prosecute and maintain the Joint Inventions and Joint Patents in accordance with Section 8.2(c), and to enforce the Joint Patents in accordance with Section 8.3, and (ii) Calithera hereby consents to High Point having the right to enforce the Joint Patents in accordance with Section 8.3(c).

(b) Following the Term:

(i) Subject to High Point's rights under Section 12.5, High Point hereby consents to Calithera having the sole right to control the licensing of and prepare, file, prosecute and maintain the Joint Inventions and Joint Patents in accordance with Section 8.2(c).

(ii) If HPP elects to receive the license set forth in Section 12.5(e)(ii), Calithera hereby consents to HPP thereafter having the sole right and authority to control the licensing of the Joint Inventions and Joint Patents solely to make, have made, use, sell, offer for sale and import the Program Molecules and Licensed Products in the Territory and having the rights to prepare, file, prosecute and maintain the Joint Inventions and Joint Patents in accordance with Sections 8.2(c) and 12.5(e)(v), and to enforce the Joint Patents in accordance with Section 12.5(e)(iii).

(iii) Subject to the rights set forth in subclause (ii) above, Calithera and HPP shall mutually agree on the roles and responsibilities after the Term of each of them with respect to the enforcement of Joint Inventions and Joint Patents prior to either of them seeking to enforce any Joint Invention or Joint Patent.

ARTICLE IX.
CONFIDENTIAL INFORMATION

9.1. Treatment of Confidential Information. During the Term and for [*] years thereafter, each Party shall maintain Confidential Information (as defined in Section 9.2) of the other Party in confidence, and shall not disclose, divulge or otherwise communicate such Confidential Information to others (except for agents, directors, officers, employees, consultants, Affiliates and advisors (collectively, "Agents") under obligations of confidentiality no less stringent than those contained herein) or use it for any purpose other than in connection with the conduct of the Research Program, or the Development, Manufacture or Commercialization of Program Molecules or Licensed Products pursuant to this Agreement, and each Party shall exercise reasonable efforts to prevent and restrain the unauthorized disclosure of such Confidential Information by any of its Agents, which reasonable efforts shall be at least as diligent as those generally used by such Party in protecting its own confidential and proprietary information. Each Party will be responsible for a breach of this ARTICLE IX by its Agents. For clarity, Calithera may disclose Confidential Information of High Point (a) to Governmental Authorities (i) to the extent desirable to obtain or maintain INDs or Regulatory Approvals for any Program Molecule or Licensed Product within the Territory and (ii) in order to respond to inquiries, requests or investigations by Governmental Authorities; (b) to outside consultants, scientific advisory boards, managed care organizations, and non-clinical and clinical investigators to the extent necessary to Develop or Commercialize any Program Molecule or Licensed Product; and (c) to the extent desirable to obtain Program Patent Rights to protect, or to Develop or Commercialize, any Program Molecule or Licensed Product; provided that Calithera shall obtain the same confidentiality obligations from such Third Parties as it obtains with respect to its own similar types of confidential information.

9.2. Confidential Information. "Confidential Information" means all trade secrets or other proprietary information, including any proprietary data and materials (whether or not patentable or protectable as a trade secret), regarding a Party's or its licensor's technology, products, business, financial status or prospects or objectives regarding the Licensed Products, which is disclosed by a Party to the other Party. All information disclosed prior to the Effective Date by HPP to Calithera pursuant to the confidentiality agreement between Calithera and HPP dated as of June 24, 2014, the confidentiality agreement between Calithera and HPP dated as of August 12, 2014, as amended on September 30, 2014, or the material transfer agreements between Calithera and HPP, dated September 30, 2014 and November 5, 2014 (collectively, the "Confidentiality Agreements") shall be deemed "Confidential Information" of High Point and all information disclosed prior to the Effective Date by Calithera to High Point pursuant to the Confidentiality Agreements and all results from the Research Program shall be deemed "Confidential Information" of Calithera. Notwithstanding the foregoing, there shall be excluded from the foregoing definition of Confidential Information any of the foregoing that:

(a) either before or after the date of the disclosure to the receiving Party is lawfully disclosed to the receiving Party by Third Parties without any violation of any obligation to the other Party; or

(b) either before or after the date of the disclosure to the receiving Party, becomes published or generally known to the public through no fault or omission on the part of the receiving Party or its Agents; or

(c) is independently developed by or for the receiving Party without reference to or reliance upon the Confidential Information as demonstrated by contemporaneous written records of the receiving Party; or

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

(d) is required to be disclosed by the receiving Party to comply with applicable Laws, to defend or prosecute litigation or to comply with governmental regulations or the regulations or requirements of any stock exchange or securities commission, provided that the receiving Party promptly provides prior notice of such disclosure to the other Party and uses reasonable efforts to avoid or minimize the degree of such disclosure.

9.3. Publication Rights.

(a) High Point shall not, and shall cause its controlled (as such word is defined in Section 1.2) Affiliates and their respective employees, consultants, contractors, licensees and agents not to, publish or publicly present any results of any preclinical or clinical studies with respect to any Program Molecule or Licensed Product without Calithera's prior written consent, not to be unreasonably withheld, conditioned or delayed. Calithera recognizes the importance of each Party's ability to make publications and in the spirit of scientific advancement, in the event High Point wishes to publish or publicly present such results, High Point shall submit the proposed publication to the Development Forum sufficiently in advance of the proposed publication date to allow Calithera to review and comment on the draft. Calithera shall advise the Development Forum as to the timing of the proposed comments within thirty (30) days of submission to the Development Forum.

(b) During the Research Term, Calithera shall provide to High Point the opportunity to review any proposed abstracts, manuscripts or summaries of presentations that cover any Program Molecule or Licensed Product as early as reasonably practicable following Calithera's publication of such proposed abstract, manuscript or summary for publication or presentation.

9.4. Restrictions on Material Non-Public Information. Each Party acknowledges that it is aware that the United States securities laws prohibit certain Persons who have received material, non-public information with respect to a public company from purchasing or selling securities of that public company and from communicating such information to any other Person under circumstances in which it is reasonably foreseeable that such Person is likely to purchase or sell such securities. Each Party acknowledges that it is familiar with the United States Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (collectively, the "1934 Act"); and agrees that it will neither use, nor cause or permit any person to use, any Confidential Information in contravention of the 1934 Act, including Rule l0b-5 and Rule 14e-3 thereunder, or other applicable securities laws.

ARTICLE X.
REPRESENTATIONS, WARRANTIES AND COVENANTS

10.1. High Point's Representations. High Point hereby represents and warrants as of the Effective Date as follows:

(a) High Point has the corporate power and authority to execute and deliver this Agreement and to perform its obligations hereunder. The execution, delivery and performance of this Agreement has been duly and validly authorized and approved by proper corporate action on the part of High Point. High Point has taken all other action required by Law, its certificate of incorporation or by-laws or any agreement to which it is a party or by which it or its assets are bound, to authorize such execution, delivery and (subject to obtaining all necessary governmental approvals with respect to the continued Development of Licensed Products) performance. Assuming due authorization, execution and delivery on the part of Calithera, this Agreement constitutes a legal, valid and binding obligation of High Point, enforceable against High Point in accordance with its terms.

(b) The execution and delivery of this Agreement by High Point and the performance by High Point, or its Affiliates or sublicensees, contemplated hereunder will not violate (subject to obtaining all necessary governmental approvals with respect to High Point's obligations under the Research Program) any United States Law or, to High Point's knowledge, any Law of any Governmental Authority outside the United States.

(c) Neither the execution and delivery of this Agreement nor the performance hereof by High Point, or its Affiliates or sublicensees, requires High Point, or its Affiliates or sublicensees, to obtain any permit, authorization or consent from any Governmental Authority (subject to obtaining all necessary governmental approvals with respect to the continued Development of Licensed Products) or from any other Person, and such execution, delivery and performance by High Point, or its Affiliates or sublicensees, will not result in the breach of or give rise to any termination of, rescission, renegotiation or acceleration under or trigger any other rights under any agreement or contract to which High Point, or its Affiliates or sublicensees, as applicable, may be a party that relates to the High Point Patent Rights or the High Point Know-How, except any that would not, individually or in the aggregate, reasonably be expected to adversely affect Calithera's rights under this Agreement or the ability of High Point, or its Affiliates or sublicensees, to perform its or their respective obligations under this Agreement.

(d) To High Point's knowledge, no Third Party is infringing any of the High Point Patent Rights. To the knowledge of High Point, the issued patents encompassed within High Point Patent Rights are valid and enforceable patents and no Third Party has challenged the validity or enforceability of such patents (including by way of example through the institution or written threat of institution of interference, nullity, revocation or similar invalidity proceedings before the United States Patent and Trademark Office or any equivalent foreign entity).

(e) High Point Controls the High Point Patent Rights identified on Schedule 1.37. None of High Point's controlled (as such term is defined in Section 1.2) Affiliates own or Control any intellectual property related to Hexokinase Inhibitors. No other Person has any right, interest or claim in or to, and High Point has not entered into any agreement granting any right, interest or claim in or to, the High Point Patent Rights or High Point Know-How, including any lien, encumbrance, charge, security interest, mortgage or other similar restriction; provided, however, that High Point makes no representation or warranty as to whether any other Person has independently developed rights to scientific or technical information or related know-how or trade secrets. High Point has entered into assignment agreements with all inventors of the High Point Intellectual Property owned by High Point and, to High Point's knowledge, all assignments to High Point of ownership rights relating to the High Point Patent Rights owned by High Point are valid and enforceable.

(f) Schedule 1.37 is a complete and correct list of all High Point Patent Rights in the Territory owned by or licensed to High Point as of the Effective Date.

(g) There is no action, claim, demand, suit, proceeding, arbitration, grievance, citation, summons, subpoena, inquiry or investigation of any nature, civil, criminal, regulatory or otherwise, in law or in equity, pending or, to High Point's knowledge, threatened, against High Point in connection with any High Point Patent Rights, High Point Know-How or against or relating to the transactions contemplated by this Agreement.

(h) The information relating to High Point's Hexokinase program that was provided by High Point to Calithera prior to the Effective Date is, to High Point's knowledge, true and correct in all material respects.

10.2. Calithera's Representations. Calithera hereby represents and warrants as of the Effective Date as follows:

(a) Calithera has the corporate power and authority to execute and deliver this Agreement and to perform its obligations hereunder. The execution, delivery and performance of this Agreement has been duly and validly authorized and approved by proper corporate action on the part of Calithera. Calithera has taken all other action required by Law, its certificate of incorporation or by-laws or any agreement to which it is a party or by which it or its assets are bound to authorize such execution, delivery and (subject to obtaining all necessary governmental approvals with respect to the Development, Manufacture and Commercialization of Program Molecules and Licensed Products) performance. Assuming due authorization, execution and delivery on the part of High Point, this Agreement constitutes a legal, valid and binding obligation of Calithera, enforceable against Calithera in accordance with its terms.

(b) The execution and delivery of this Agreement by Calithera and the performance by Calithera contemplated hereunder will not violate (subject to obtaining all necessary governmental approvals with respect to the continued Development, Manufacture and Commercialization of Program Molecules and Licensed Products) any United States Law or, to Calithera's knowledge, any Law of any Governmental Authority outside the United States.

(c) There is no action, claim, demand, suit, proceeding, arbitration, grievance, citation, summons, subpoena, inquiry or investigation of any nature, civil, criminal, regulatory or otherwise, in law or in equity, pending or, to the knowledge of Calithera, threatened against Calithera in connection with or relating to the transactions contemplated by this Agreement.

(d) Neither the execution and delivery of this Agreement nor the performance hereof by Calithera requires Calithera to obtain any permit, authorization or consent from any Governmental Authority (subject to obtaining all necessary governmental approvals with respect to the continued Development, Manufacture and Commercialization of Program Molecules and Licensed Products) or from any other Person, and such execution, delivery and performance by Calithera will not result in the breach of or give rise to any termination of, rescission, renegotiation or acceleration under or trigger any other rights under any agreement or contract to which Calithera may be a party that relates to the Licensed Products, Calithera Patent Rights or Calithera Know-How, except any that would not, individually or in the aggregate, reasonably be expected to adversely affect High Point's rights under this Agreement or the ability of Calithera to perform its obligations under this Agreement.

(e) The information relating to Calithera's plans for pursuing a Hexokinase program that was provided by Calithera to High Point prior to the Effective Date is, to Calithera's knowledge, true and correct in all material respects.

10.3. Mutual Covenant. Each Party shall conduct, and shall use reasonable efforts to cause its contractors and consultants to conduct, all of its activities contemplated under this Agreement in accordance with the Act, any similar foreign Law, and all applicable Laws of the country in which such activities are conducted.

10.4. No Warranty. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY HERETO MAKES ANY REPRESENTATION AND EXTENDS NO WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED. IN PARTICULAR, BUT WITHOUT LIMITATION, HIGH POINT MAKES NO REPRESENTATION AND EXTENDS NO WARRANTY CONCERNING WHETHER ANY PROGRAM MOLECULE IS FIT FOR ANY PARTICULAR PURPOSE OR SAFE FOR USE IN HUMANS.

ARTICLE XI.
INDEMNIFICATION

11.1. Indemnification in Favor of High Point. Calithera shall indemnify, defend and hold harmless the High Point Parties (as hereinafter defined) from and against any and all Losses incurred, suffered or sustained by any of the High Point Parties or to which any of the High Point Parties becomes subject, arising out of, relating to or resulting from any Third Party claim, action, suit, proceeding, liability or obligation (collectively, "Third Party Claims") arising out of, relating to or resulting from:

(a) any misrepresentation or breach of any representation, warranty, covenant or agreement made by Calithera in this Agreement; or

(b) the Development, Manufacture, use or Commercialization of a Program Molecule or Licensed Product by Calithera, its Affiliates or Sublicensees, including all Third Party Claims involving (A) death or bodily injury caused or allegedly caused by the use of a Program Molecule or Licensed Product, and even if a Program Molecule or Licensed Product is altered for use for a purpose not intended or (B) any actual or alleged infringement of any trademark, Patent Right or other intellectual property right, or misappropriation of any trade secret, of any Third Party; or

(c) the gross negligence or willful misconduct of any of the Calithera Parties (as hereinafter defined) in connection with Calithera's performance of this Agreement.

For purposes of this ARTICLE XI, "High Point Parties" means High Point, its Affiliates and their respective licensors, agents, directors, officers, employees and shareholders.

The indemnification obligations set forth in this Section 11.1 shall not apply to the extent that any Loss is the result of a breach of this Agreement by High Point or, with respect to any indemnitee, the gross negligence or willful misconduct of such indemnitee.

11.2. Indemnification in Favor of Calithera. High Point shall indemnify, defend and hold harmless the Calithera Parties from and against any and all Losses incurred, suffered or sustained by any of the Calithera Parties or to which any of the Calithera Parties becomes subject, arising out of, relating to or resulting from any Third Party Claim arising out of, relating to or resulting from:

(a) any misrepresentation or breach of any representation, warranty, covenant or agreement made by High Point in this Agreement; or

(b) the gross negligence or willful misconduct of any of the High Point Parties in connection with High Point's performance of its obligations under this Agreement.

For purposes of this ARTICLE XI, "Calithera Parties" means Calithera, its Affiliates and their respective agents, directors, officers, employees and shareholders.

The indemnification obligations set forth in this Section 11.2 shall not apply to the extent that any Loss is the result of a breach of this Agreement by Calithera or, with respect to any indemnitee, the gross negligence or willful misconduct of such indemnitee.

11.3. General Indemnification Procedures.

(a) A Person seeking indemnification pursuant to this ARTICLE XI (an "Indemnified Party") shall give prompt notice to the Party from whom such indemnification is sought (the "Indemnifying Party") of the commencement or assertion of any Third Party Claim (which in no event includes any claim by any Calithera Party or any High Point Party) in respect of which indemnity may be sought hereunder, shall give the Indemnifying Party such information with respect to any indemnified matter as the Indemnifying Party may reasonably request, and shall not make any admission concerning any Third Party Claim, unless such admission is required by applicable Law or legal process, including in response to questions presented in depositions or interrogatories. Any admission made by the Indemnified Party or the failure to give such notice shall relieve the Indemnifying Party of any liability hereunder only to the extent that the ability of the Indemnifying Party to defend such Third Party Claim is prejudiced thereby (and no admission required by applicable Law or legal process shall be deemed to result in prejudice). The Indemnifying Party shall assume and conduct the defense of such Third Party Claim, with counsel selected by the Indemnifying Party and reasonably acceptable to the Indemnified Party. Subject to the initial and continuing satisfaction of the terms and conditions of this ARTICLE XI, the Indemnifying Party shall have full control of such Third Party Claim, including settlement negotiations and any legal proceedings. If the Indemnifying Party does not assume the defense of such Third Party Claim in accordance with this Section 11.3, the Indemnified Party may defend the Third Party Claim. If both Parties are Indemnifying Parties with respect to the same Third Party Claim, the Parties shall determine by mutual agreement, within twenty (20) days following their receipt of notice of commencement or assertion of such Third Party Claim (or such lesser period of time as may be required to respond properly to such claim), which Party shall assume the lead role in the defense thereof. Should the Indemnifying Parties be unable to mutually agree on which of them shall assume the lead role in the defense of such Third Party Claim, both Indemnifying Parties shall be entitled to participate in such defense through counsel of their respective choosing.

(b) Any Indemnified Party or Indemnifying Party not managing the defense of a Third Party Claim shall have the right to participate in (but not control), at its own expense (subject to the immediately succeeding sentence), the defense. The Indemnifying Party managing the defense shall not be liable for any litigation cost or expense incurred, without its consent, by the Indemnified Party (or an Indemnifying Party not managing the defense) where the action or proceeding is under the control of such Indemnifying Party; provided, however, that if the Indemnifying Party managing the defense fails to take reasonable steps necessary to defend such Third Party Claim, the Indemnified Party may assume its own defense, and the Indemnifying Party managing the defense will be liable for all reasonable costs or expenses paid or incurred in connection therewith.

(c) The Indemnifying Party shall not consent to a settlement of, or the entry of any judgment against an Indemnified Party arising from any such Third Party Claim to the extent such Third Party Claim involves equitable or other non-monetary relief from the Indemnified Party. No Party shall, without the prior written consent of the other Party or the Indemnified Party, enter into any compromise or settlement that commits the other Party or the Indemnified Party to take, or to forbear to take, any action.

(d) The Parties shall cooperate in the defense or prosecution of any Third Party Claim and shall furnish such records, information and testimony, and attend such conferences, discovery proceedings, hearings, trials and appeals, as may be reasonably requested in connection therewith.

(e) Any indemnification hereunder shall be made net of any insurance proceeds actually recovered by the Indemnified Party from unaffiliated Third Parties; provided, however, that if, following the payment to the Indemnified Party of any amount under this ARTICLE XI, such Indemnified Party recovers any such insurance proceeds in respect of the claim for which such indemnification payment was made, the Indemnified Party shall promptly pay an amount equal to the amount of such proceeds (but not exceeding the amount of such net indemnification payment) to the Indemnifying Party.

(f) The Parties agree and acknowledge that the provisions of this ARTICLE XI represent the Indemnified Party's exclusive recourse with respect to any Losses for which indemnification is provided to the Indemnified Party under this ARTICLE XI.

ARTICLE XII.
TERM AND TERMINATION

12.1. Term. The term of this Agreement (the "Term") shall commence on the Effective Date and, unless earlier terminated as provided in this ARTICLE XII, shall continue in full force and effect, on a country-by-country and Licensed Product-by-Licensed Product basis until there is no remaining royalty obligation in such country with respect to such Licensed Product, at which time this Agreement shall expire in its entirety with respect to such Licensed Product in such country. The Term shall expire on the date the Agreement has expired with respect to all Licensed Products in all countries in the Territory.

12.2. Termination for Convenience. Calithera shall have the right to terminate this Agreement or the Research Program, at any time and for any reason, upon ninety (90) days' prior written notice to High Point. If Calithera terminates this Agreement under this Section 12.2, then the provisions of Section 12.5 shall apply.

12.3. Termination for Breach. In the event of a material breach of this Agreement by a Party, Calithera or HPP, as applicable, may give the Party in default notice requiring it to cure such default. If such material breach is not cured within [*] days after receipt of such notice, within [*] days in the case of a payment breach, or within [*] days in the case of a breach of diligence obligations as set forth in ARTICLE VI, Calithera or HPP, as applicable, shall be entitled (without prejudice to any of its other rights conferred on it by this Agreement or under applicable Law) to terminate this Agreement by giving written notice to the defaulting Party, with such termination to take effect immediately. The right of Calithera or HPP to terminate this Agreement as set forth in this Section 12.3 shall not be affected in any way by its waiver of, or failure to take action with respect to, any previous default. If HPP terminates this Agreement under this Section 12.3, then the consequences set forth in Section 12.5 shall apply. In the event that a Party is notified by Calithera or HPP, as applicable, under this Section 12.3 that such Party (as applicable, the "Defaulting Party") has materially breached this Agreement, and such breach was caused by a sublicensee of the Defaulting Party, and such breach is by its nature curable, then the Defaulting Party shall have an additional [*] days after the applicable cure period set forth in the second sentence of this Section 12.3 to cure such breach.

12.4. Termination for Insolvency. This Agreement may be terminated by Calithera or HPP upon written notice to the other if (a) the other Party (HPP or Calithera, respectively) shall make an assignment for the benefit of its creditors, file a petition in bankruptcy, petition or apply to any tribunal for the appointment of a custodian, receiver or trustee for it or a substantial part of its assets, or shall commence any proceeding under any bankruptcy, reorganization, readjustment of debt, dissolution or liquidation law or statute of any jurisdiction, whether now or hereafter in effect; or (b) if there shall have been filed against HPP or Calithera, respectively, any such *bona fide* petition or application, or any such proceeding shall have been commenced against it, in which an order for relief is entered or that remains undismissed or unstayed for a period of [*] days or more; or (c) if HPP or Calithera, respectively, by any act or omission shall indicate its consent to, approval of or acquiescence in any such petition, application or proceeding or order for relief or the appointment of a custodian, receiver or trustee for it or any substantial part of its assets, or shall suffer any such custodianship, receivership or trusteeship to continue undischarged or unstayed for a period of [*] days or more. Termination shall be effective upon the date specified in such notice. If HPP terminates this Agreement under this Section 12.4, then the provisions of Section 12.5 shall apply. If Calithera terminates this Agreement under this Section 12.4, then the provisions of Section 12.6 shall apply.

12.5. Consequences of Certain Terminations by the Parties. If this Agreement is terminated by Calithera under Section 12.2, or by HPP under Section 12.3 or 12.4, then the license granted to Calithera in Section 2.1 shall terminate, and for a period of [*] days after such termination, HPP shall have the exclusive right to elect, via written notice(s) to Calithera, to acquire, license or gain access to all or a portion of the following as set forth in such notice(s). To the extent reasonably accessible and without additional unreimbursed out-of-pocket cost to Calithera, for a reasonable period of time, not to exceed [*] but no less than [*] after HPP's election under this Section 12.5, Calithera shall provide such elected items and perform such elected activities, subject to applicable Third Party agreements or legal obligations, including to clinical sites, patients, institutional review boards, or Third Party vendors, as to whom Calithera shall provide reasonable letters of introduction as requested by HPP; provided that Calithera may keep a copy of all documents for its records or a sample of any materials:

(a) Regulatory Matters. Ownership of all regulatory filings and Regulatory Approvals relating to the Program Molecules and the Licensed Products, and copies of related material correspondence with Regulatory Authorities, as maintained as of the effective date of termination, and performance by Calithera of the activities set forth on Schedule 12.5(a), subject to reimbursement of reasonable internal costs of Calithera for such transfer, with the reasonable internal rate for Calithera employees' time not to exceed [*] per hour; provided that the first [*] hours of Calithera employees' time devoted to activities under this Section 12.5(a) shall not be subject to reimbursement;

(b) Pre-clinical and Clinical Matters. All pre-clinical and clinical data, including pharmacology and biology data, specifically relating to Program Molecules and Licensed Products, but excluding any comparison data or business analysis, and performance by Calithera of the activities set forth on Schedule 12.5(b) in each case to the extent in Calithera's possession or control or, if not in Calithera's possession or control, to the extent Calithera's standard operating procedures provide for their preparation;

(c) High Point Documents and Materials. All documents and materials received from High Point;

(d) Manufacturing Matters. Subject to (x) Calithera Patent Rights (which shall be licensed pursuant to Section 12.5(e) below) and (y) Calithera's proprietary information and systems developed independently of this Agreement, subject to applicable

agreements or legal obligations including to clinical sites, patients, institutional review boards, or third-party vendors, provided that Calithera may keep a copy of all documents for its records or a sample of any materials:

(i) assignment of each manufacturing agreement for Program Molecules or Licensed Products to HPP (or, where such agreement is not specific to Program Molecules or Licensed Products, the benefit thereof);

(ii) cooperation with HPP in reasonable respects to transfer manufacturing documents and materials which are used (at the time of the termination) by Calithera exclusively in the Manufacture of Program Molecules and Licensed Products to the extent such manufacturing documents and materials are not obtained by HPP pursuant to paragraph (i) above;

(iii) cooperation with HPP in reasonable respects to transfer manufacturing technologies Controlled by Calithera which are used (at the time of the termination) exclusively in the Manufacture of Program Molecules and Licensed Products to the extent such manufacturing documents and materials are not obtained by HPP pursuant to paragraphs (i) and (ii) above, provided that HPP shall pay Calithera's reasonable internal rates and expenses to provide such requested assistance, with the reasonable internal rate for Calithera employees' time not to exceed [*] per hour; provided that the first [*] hours of Calithera employees' time devoted to activities under this Section 12.5(d)(iii) shall not be subject to reimbursement;

(iv) Calithera's then existing inventory of Program Molecules and Licensed Products to HPP, at [*], but only if the following conditions have been met: (A) such Program Molecules and Licensed Products meet the applicable release specifications; (B) Calithera does not reasonably believe the continued use of such Program Molecules and Licensed Products cause safety concerns; and (C) HPP shall not place into commerce products marked with Calithera's House Marks as defined in Section 12.5(f) below;

(v) in the event this Agreement is terminated after Initiation of a Phase III Clinical Trial of a Licensed Product, use of Commercially Reasonable Efforts using Calithera's then existing manufacturing facilities and equipment to Manufacture and supply HPP's requirements of such Licensed Product for a period of no longer than [*] after the effective date of termination, at [*], provided that HPP shall not place into commerce products marked with Calithera's House Marks as defined in Section 12.5(f) below;

(e) License Grant. At HPP's option, to be exercised no later than [*] days after the effective date of termination:

(i) Effective upon the date of termination by Calithera under Section 12.2, or by HPP under Section 12.3 or 12.4, Calithera shall and hereby does grant to HPP a non-exclusive, fully paid-up, non-royalty-bearing, irrevocable, perpetual license, with the right to grant sublicenses under multiple tiers, under the Calithera Know-How solely to the extent required to make, have made, use, sell, offer for sale and import the Program Molecules and the Licensed Products in the Territory; provided that with respect to any Calithera Know-How that Calithera acquired from another Person (by license or otherwise), Calithera shall only be required to grant to HPP a license to such Calithera Know-How to the extent permitted under its agreement with such Person, and, after the effective date of termination, HPP shall pay Calithera or such Person any payment that becomes due to such Person arising from the activities of HPP, its Affiliates or sublicensees relating to the Program Molecules and Licensed Products; provided further that HPP shall execute mutually acceptable documentation to effectuate such agreement;

(ii) Effective upon the date of termination by Calithera under Section 12.2, or by HPP under Section 12.3 or 12.4, Calithera shall and hereby does grant to HPP an exclusive, royalty-bearing, irrevocable, perpetual license, with the right to grant sublicenses under multiple tiers (A) under the Program Patent Rights solely to the extent required to make, have made, use, sell, offer for sale and import Program Molecules and Licensed Products in the Territory, and (B) under the Calithera Patent Rights (that are not Program Patent Rights and that are actually used in the discovery, Development, Commercialization or Manufacture of any Program Molecule or Licensed Product) solely to the extent required to make, have made, use, sell, offer for sale and import the Program Molecules and the Licensed Products in the Territory. In consideration of such license, HPP shall pay to Calithera following the effective date of termination a royalty equal to (y) [*] of the royalties set forth in Section 7.6 of net sales of such Licensed Products, if such termination [*] or (x) [*] of the royalties set forth in Section 7.6 of net sales of such Licensed Products, if such termination [*] (in each case with (1) such net sales being determined by applying the definitions of Net Sales *mutatis mutandis* to any sales of such Licensed Products by HPP, its Affiliates or sublicensees, and (2) the duration of such royalty payments being, on a country-by-country basis, the period commencing on the first commercial sale by HPP, its Affiliates or sublicensees in such country and ending on the date on which the manufacture, use, sale, offer for sale or importation of such Program Molecules or such Licensed Products in such country ceases to be Covered by a valid claim of the Calithera Patent Rights or Program Patent Rights (with valid claim to be determined by applying the definition of Valid Claim to Calithera Patent Rights or Program Patent Rights) in such country; provided that, with respect to any Calithera Patent Rights that Calithera acquired from another Person (by license or otherwise), Calithera shall only be required to grant to HPP a license to such Calithera Patent Rights to the extent permitted under its agreement with such Person, and, after the effective date of termination, HPP shall pay Calithera or such Person any payment that becomes due to such

Person arising from the activities of HPP, its Affiliates or sublicensees relating to such Program Molecules or such Licensed Products; provided further that HPP shall execute mutually acceptable documentation to effectuate such agreement;

(iii) With respect to enforcement of any Calithera Patent Rights or Program Patent Rights (including Joint Patents) licensed to HPP pursuant to Section 12.5(e)(ii) above, HPP shall have the same rights as Calithera has with respect to High Point Patent Rights pursuant to Section 8.3, but only with respect to infringement that involves the making, using, selling, offering for sale and importing of a product by a Third Party that contains a Hexokinase Inhibitor in the Field in the Territory;

(iv) If Calithera determines to abandon in all or any portion of the Territory any Calithera Patent Right (other than a Joint Patent) licensed to HPP pursuant to Section 12.5(e)(ii) (the "Abandoned Calithera Patent"), Calithera shall notify HPP of such determination, no later than thirty (30) days before any deadline for further action to avoid abandonment.

(A) In the case of any pending application for an Abandoned Calithera Patent, if HPP wishes to continue to prosecute such Abandoned Calithera Patent in such Territory, Calithera may elect to continue to prosecute such Abandoned Calithera Patent in such Territory or allow HPP to have the sole right, but not the obligation, to continue to prosecute such Abandoned Calithera Patent [*]. HPP may only elect to continue to prosecute such Abandoned Calithera Patent that exclusively relates to Program Molecules or Licensed Products. To the extent permitted by applicable Laws, a patent application that relates to, but does not exclusively relate to, the Program Molecules or Licensed Products, will be split such that the claims of the patent application only recite subject matter exclusively related to Program Molecules or Licensed Products. Divisionals or other patent applications that do not specifically relate to Program Molecules or Licensed Products shall be excluded from the Calithera Patent Rights licensed to HPP pursuant to Section 12.5(e)(ii).

(B) In the case of any issued Abandoned Calithera Patent, if HPP wishes to continue to maintain such Abandoned Calithera Patent in such Territory, Calithera may elect to continue to maintain such Abandoned Calithera Patent in such Territory or allow HPP to have the sole right, but not the obligation, to continue to maintain the Abandoned Calithera Patent [*].

(C) If either Party elects to continue to prosecute and maintain any Abandoned Calithera Patent, the other Party shall reasonably cooperate to transfer such prosecution and maintenance of such Abandoned Calithera Patent;

(v) Calithera shall have the right under Section 8.2(c) to regain control of prosecution and maintenance of any Abandoned Joint Patent licensed to HPP at any time, subject to [*] and [*] for such Abandoned Calithera Patent. If either Party elects to maintain any Abandoned Calithera Patent, the other Party shall reasonably cooperate to transfer such maintenance and prosecution thereof;

(vi) The roles of HPP and Calithera with respect to patent term extensions under Section 8.5 shall be reversed;

(vii) If Calithera becomes aware of any certification filed pursuant to 21 U.S.C. § 355(b)(2)(A) or 355(j)(2)(A)(vii)(IV) (or any amendment or successor statute thereto) claiming that any Calithera Patent Rights (including an Abandoned Calithera Patent and Joint Patents, including an Abandoned Joint Patent) licensed to HPP pursuant to Section 12.5(e)(ii) are invalid or otherwise unenforceable, or that infringement will not arise from the manufacture, use, import or sale of a product by a Third Party, Calithera shall promptly notify HPP in writing within five (5) Business Days after its receipt thereof;

(f) Assignment of Trademark. Calithera agrees to and hereby assigns to HPP of all of Calithera's right, title and interest in any trademark used solely in connection with the Licensed Products, provided that said assignment shall not include any trademark relating to the name 'Calithera' or the business names or trade names of any of Calithera's Affiliates or Sublicensees ("House Marks").

(g) Limitation on Remedy. In the event this Agreement is terminated by Calithera under Section 12.2, or by High Point under Section 12.3 or 12.4, and HPP elects to obtain any of the items under Section 12.5 then the fair market value of such items obtained by HPP shall be deducted from any damages to which High Point may otherwise be entitled hereunder in connection with such termination.

12.6. Payment of Balance of Quarterly Research Fees.

(a) If Calithera terminates this Agreement or the Research Program during the Research Program Term pursuant to Section 12.2, then HPP shall retain all Quarterly Research Fees paid by Calithera under Section 7.2 prior to the effective date of such

termination, and [*] the effective date of such termination, which Quarterly Research Fee shall be [*] the Research Program [*] (or [*] the Research Program) [*] the date of termination and shall be [*] Quarterly Research Fee [*].

(b) If Calithera terminates this Agreement or the Research Program during the Research Program Term pursuant to Section 12.3 or 12.4, then HPP shall retain all Quarterly Research Fees paid by Calithera under Section 7.2 prior to the effective date of such termination

(c) For purposes of clarity, a termination of the Research Program shall not constitute a termination of the Agreement, unless explicitly stated in such termination notice.

12.7. Unblock License. Upon termination or expiration of this Agreement (other than a termination by High Point pursuant to Section 12.3 or 12.4), High Point shall and hereby does grant to Calithera a perpetual, irrevocable, fully paid-up, royalty-free, worldwide, non-exclusive license, with the right to grant sublicenses under multiple tiers, under the High Point Sole Inventions conceived under the Research Program, provided that if HPP exercises its option to obtain the license set forth in Section 12.5(e)(ii), Calithera shall have no rights under the license granted under this Section 12.7 to make, have made, use, sell, offer for sale or import Program Molecules or Licensed Products in the Field in the Territory.

12.8. Effect of Termination and Expiration; Accrued Rights and Obligations. Termination of this Agreement for any reason shall not release either Party from any liability that, at the time of such termination, has already accrued or that is attributable to a period prior to such termination (including payment obligations accrued prior to the effective date of termination pursuant to Sections 7.4, 7.5 or 7.6) nor preclude either Party from pursuing any right or remedy it may have hereunder or at Law or in equity with respect to any breach of this Agreement. It is understood and agreed that monetary damages may not be a sufficient remedy for any breach of this Agreement and that the non-breaching Party may be entitled to seek injunctive relief as a remedy for any such breach. HPP shall have no obligation to repay any Quarterly Research Fee paid pursuant to Section 7.2 following any termination of this Agreement.

12.9. Survival. The rights and obligations set forth in this Agreement shall extend beyond the Term or termination of this Agreement only to the extent expressly provided for in this Agreement or to the extent required to give effect to a termination of this Agreement or the consequences of a termination of this Agreement as expressly provided for in this Agreement. Without limiting the generality of the foregoing, it is agreed that the provisions of ARTICLE I, Sections 2.3, 7.6(b) (with respect to the fully paid-up license granted therein), 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 8.1, 8.2(a), 8.2(c) (and with respect to Calithera Patent Rights, Joint Patents and Joint Inventions, only, and subject to Sections 8.9(b) and 12.5(e), Sections 8.2(d), 8.3, 8.4, 8.7 and 8.8), 8.5 (subject to Section 12.5(e)(vi)), 8.9(b), 9.1, 9.2, 9.4, 11.1, 11.2, 11.3, 12.5, 12.6, 12.7, 12.8, 12.9, 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8, 13.9, 13.10, 13.11, 13.12, 13.13, 13.14, 13.15, 13.16 and 13.17 shall survive expiration or termination of this Agreement for any reason.

ARTICLE XIII.
MISCELLANEOUS

13.1. Governing Law. This Agreement shall be governed by and interpreted in accordance with the internal laws of the State of Delaware, without regard to its conflicts of laws rules.

13.2. Jurisdiction. Each Party (a) irrevocably submits to the exclusive jurisdiction in any state or federal court sitting in Wilmington, Delaware (collectively, the "Courts"), for purposes of any action, suit or other proceeding arising out of this Agreement, and (b) agrees not to raise any objection at any time to the laying or maintaining of the venue of any such action, suit or proceeding in any of the Courts, irrevocably waives any claim that such action, suit or other proceeding has been brought in an inconvenient forum and further irrevocably waives the right to object, with respect to such action, suit or other proceeding, that such Court does not have any jurisdiction over such Party. Either Party may serve any process required by such Courts by way of notice under this Agreement pursuant to Section 13.4.

13.3. Waiver. Waiver by a Party of a breach hereunder by the other Party shall not be construed as a waiver of any succeeding breach of the same or any other provision. No delay or omission by a Party to exercise or avail itself of any right, power or privilege that it has or may have hereunder shall operate as a waiver of any right, power or privilege by such Party. No waiver shall be effective unless made in writing with specific reference to the relevant provision(s) of this Agreement and signed by a duly authorized representative of the Party granting the waiver.

13.4. Notices. All notices, instructions and other communications hereunder or in connection herewith shall be in writing, shall be sent to the address specified in this Section 13.4 and shall be: (a) delivered personally; (b) sent by registered or certified mail,

return receipt requested, postage prepaid; (c) sent via a reputable nationwide overnight courier service; or (d) sent by facsimile transmission. Any such notice, instruction or communication (except as provided expressly herein) shall be deemed to have been delivered upon receipt if delivered by hand, three (3) Business Days after it is sent by registered or certified mail, return receipt requested, postage prepaid, one (1) Business Day after it is sent via a reputable nationwide overnight courier service, or when transmitted with electronic confirmation of receipt, if transmitted by facsimile (if such transmission is on a Business Day; otherwise, on the next Business Day following such transmission).

Notices to Calithera shall be addressed to:

Calithera Biosciences Inc.
343 Oyster Point Blvd #200
South San Francisco, CA 94080
Attention: Curtis Hecht
Vice President, Business and Corporate Development
Facsimile: (650) 588-5272

with a copy to:

Calithera Biosciences Inc.
343 Oyster Point Blvd #200
South San Francisco, CA 94080
Attention: Terri Davis
Associate Director, Intellectual Property and Legal Affairs
Facsimile: (650) 319-8093

and

Foley Hoag LLP
Seaport West
155 Seaport Boulevard
Boston, MA 02210-2600
Attention: Hemmie Chang
Facsimile: 617-832-7000

Notices to High Point shall be addressed to:

High Point Pharmaceuticals, LLC
4170 Mendenhall Oaks Parkway
High Point, NC 27265
Attention: President
Facsimile: 336-841-0310

with a copy to:

TransTech Pharma LLC
4170 Mendenhall Oaks Parkway
High Point, NC 27265
Attention: President
Facsimile: 336-841-0310

Either Party may change its address by giving notice to the other Party in the manner provided above.

13.5. Entire Agreement. This Agreement (including Schedules) contains the complete understanding of the Parties with respect to the research, Development, Manufacture and Commercialization of Program Molecules and Licensed Products and supersedes all prior understandings and writings relating to such subject matter. In particular, and without limitation, it supersedes and replaces the

Confidentiality Agreements and any and all term sheets relating to the transactions contemplated by this Agreement and exchanged between the Parties prior to the Effective Date.

13.6. Headings. Headings in this Agreement are for convenience of reference only and shall not be considered in construing this Agreement.

13.7. Severability. If any provision of this Agreement is held unenforceable by a court or tribunal of competent jurisdiction because it is invalid or conflicts with any Law of any relevant jurisdiction, the validity of the remaining provisions shall not be affected. In such event, the Parties shall negotiate a substitute provision that, to the extent possible, accomplishes the original business purpose.

13.8. Registration and Filing of the Agreement. To the extent a Party determines in good faith that it is required by applicable Law to publicly file, register or notify this Agreement with a Governmental Authority, including public filings pursuant to securities Laws, it shall provide the proposed redacted form of the Agreement to the other Party a reasonable amount of time prior to filing for the other Party to review such draft and propose changes to such proposed redactions. The Party making such filing, registration or notification shall incorporate any proposed changes timely requested by the other Party, absent a substantial reason to the contrary, and shall use commercially reasonable efforts to seek confidential treatment for any terms that the other Party timely requests be kept confidential, to the extent such confidential treatment is reasonably available consistent with applicable Law. Each Party shall be responsible for its own legal and other external costs in connection with any such filing, registration or notification.

13.9. Assignment. Neither this Agreement nor any right or obligation hereunder may be assigned or otherwise transferred by Calithera, HPP or TransTech (the "Assignor") without the consent of the other Party; provided, however, that an Assignor may, without such consent, assign this Agreement, in whole or in part: (i) to any of its Affiliates, provided that the Assignor shall remain jointly and severally liable with such Affiliate in respect of all obligations so assigned or transferred and such Affiliate has acknowledged and confirmed in writing that, effective as of such assignment or other transfer, such Affiliate shall be bound by this Agreement as if it were a party to it as and to the identical extent applicable to the Assignor; or (ii) to any successor in interest by way of merger, acquisition or sale of all or substantially all of its assets to which this Agreement relates, provided that such successor agrees in writing to be bound by the terms of this Agreement as if it were the Assignor and to assume all obligations of the Assignor under this Agreement. Any purported assignment or transfer in violation of this Section 13.9 shall be void. Notwithstanding the foregoing provisions of this Section 13.9, each Party acknowledges and agrees that the other Party may satisfy any of its performance obligations under this Agreement through permitted sublicensees in accordance with Section 2.1(b) or 2.2(b).

13.10. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument. Such counterparts may be exchanged by facsimile or PDF (provided that each executed counterpart is transmitted in one complete transmission or electronic mail message). Where there is an exchange of executed counterparts by facsimile or PDF, each Party shall be bound by the Agreement notwithstanding that original copies of the Agreement may not be exchanged immediately. The Parties shall cooperate after execution of the Agreement and exchange by facsimile or PDF to ensure that each Party obtains an original executed copy of this Agreement with reasonable promptness.

13.11. Force Majeure. No Party shall be liable for failure of or delay in performing obligations set forth in this Agreement, and no Party shall be deemed in breach of its obligations, if such failure or delay is due to a natural disaster, explosion, fire, flood, tornadoes, thunderstorms, earthquake, war, terrorism, riots, embargo, losses or shortages of power, labor stoppage, substance or material shortages, damage to or loss of product in transit, events caused by reason of Laws of any Governmental Authority, events caused by acts or omissions of a Third Party, or any other cause reasonably beyond the control of such Party.

13.12. Press Releases and Other Disclosures. The Parties hereby each approve the forms of separate press releases set forth in Schedule 13.12 hereto and will cooperate in the release thereof as soon as practicable after the Effective Date. The Parties also recognize that each Party may from time to time desire to issue additional press releases and make other public statements or disclosures regarding the subject matter of this Agreement. In such event, subject to Section 9.4, the Party desiring to issue an additional press release or make a public statement or disclosure shall provide the other Party with a copy of the proposed press release, statement or disclosure for review and approval in advance, which advance approval shall not be unreasonably withheld, conditioned or delayed (except that neither Party shall have any obligation to disclose Confidential Information except to the extent required or permitted pursuant to ARTICLE IX). No other public statement or disclosure concerning the existence or terms of this Agreement shall be made, either directly or indirectly, by either Party, without first obtaining the written approval of the other Party. Once any public statement or disclosure has been approved in accordance with this Section, then either Party may appropriately communicate information contained in such permitted statement or disclosure. Notwithstanding the foregoing provisions of this Section 13.12 or of ARTICLE IX, a Party may (a) disclose the existence and terms of the this Agreement where required, as

reasonably determined by the disclosing Party, by applicable Law, by applicable stock exchange regulation or by order or other ruling of a competent court, (b) disclose the existence and terms of this Agreement under obligations of confidentiality to agents, advisors, contractors, investors and sublicensees, and to potential agents, advisors, contractors, investors and sublicensees, in connection with such Party's activities hereunder and in connection with such Party's financing activities and (c) publicly announce any of the matters set forth in Schedule 13.12, provided that such announcements do not entail disclosure of non-public technical or scientific information (which, for purposes of clarity, excludes clinical trial results) and the announcing Party provides the other Party with a copy of the proposed text of such announcement sufficiently in advance of the scheduled release or publication thereof to afford such other Party a reasonable opportunity to review and comment upon the proposed text.

13.13. Third Party Beneficiaries. None of the provisions of this Agreement shall be for the benefit of or enforceable by any Third Party other than an indemnitee under ARTICLE XI. No such Third Party shall obtain any right under any provision of this Agreement or shall by reason of any such provision make any claim in respect of any debt, liability or obligation (or otherwise) against either Party.

13.14. Relationship of the Parties. Each Party shall bear its own costs incurred in the performance of its obligations hereunder without charge or expense to the other, except as expressly provided in this Agreement. Neither Party shall have any responsibility for the hiring, termination or compensation of the other Party's employees or for any employee compensation or benefits of the other Party's employees. No employee or representative of a Party shall have any authority to bind or obligate the other Party for any sum or in any manner whatsoever, or to create or impose any contractual or other liability on the other Party without said other Party's approval. For all purposes, and notwithstanding any other provision of this Agreement to the contrary, the legal relationship under this Agreement of each Party to the other Party shall be that of independent contractor. Nothing in this Agreement shall be construed to establish a relationship of partners or joint venturers between the Parties.

13.15. Performance by Affiliates. To the extent that this Agreement imposes obligations on Affiliates of a Party, such Party agrees to cause its Affiliates to perform such obligations.

13.16. Construction. Each Party acknowledges that it has been advised by counsel during the course of negotiation of this Agreement, and, therefore, that this Agreement shall be interpreted without regard to any presumption or rule requiring construction against the Party causing this Agreement to be drafted. Any reference in this Agreement to an Article, Section, subsection, paragraph, clause or Schedule shall be deemed to be a reference to any Article, Section, subsection, paragraph, clause or Schedule, of or to, as the case may be, this Agreement. Except where the context otherwise requires, (a) wherever used, the use of any gender will be applicable to all genders, (b) the word "or" is used in the inclusive sense (and/or), (c) any definition of or reference to any agreement, instrument or other document refers to such agreement, instrument other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein or therein), (d) any reference to any Laws refers to such Laws as from time to time enacted, repealed or amended, (e) the words "herein", "hereof" and hereunder", and words of similar import, refer to this Agreement in its entirety and not to any particular provision hereof, (f) the words "include", "includes" and "including" shall be deemed to be followed by the phrase "but not limited to", "without limitation" or words of similar import, and (g) all dollar ($) amounts specified herein are United States dollar amounts.

13.17. No Consequential or Punitive Damages. NEITHER PARTY WILL BE LIABLE FOR INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, INCLUDING LOST PROFITS, ARISING FROM OR RELATING TO THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF SUCH DAMAGES. NOTHING IN THIS SECTION 13.17 IS INTENDED TO LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF EITHER PARTY UNDER THIS AGREEMENT WITH RESPECT TO THIRD PARTY CLAIMS, OR WITH RESPECT TO THE INFRINGEMENT OR MISAPPROPRIATION OF THE OTHER PARTY'S INTELLECTUAL PROPERTY RIGHTS OR CONFIDENTIAL INFORMATION.

[*Remainder of page intentionally left blank.*]

IN WITNESS WHEREOF, the Parties have signed this Agreement as of the Effective Date.

CALITHERA BIOSCIENCES INC.

By: /s/ Susan Molineaux

Name: Susan Molineaux, Ph.D.

Title: President & CEO

HIGH POINT PHARMACEUTICALS, LLC

By: /s/ Stephen L. Holcombe

Name: Stephen L. Holcombe

Title: President & CFO

TRANSTECH PHARMA LLC

By: /s/ Stephen L. Holcombe

Name: Stephen L. Holcombe

Title: President & CFO

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

Schedule 1.33

Hexokinase Inhibitor Assay

[*]

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Schedule 1.37

High Point Patent Rights

File No.	Application No.	Filing Date	Assignee	Title	Status
[*]	[*]	[*]	[*]	[*]	[*]

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Schedule 1.66

Research Plan

[*]

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Schedule 7.2

(a)

Maximum Number of FTEs during Research Program Term	FTE Rate	Maximum Annual Payment by Calithera	Maximum Quarterly Payment by Calithera (Prorated for four (4) FTEs)
Four (4)	$275,000	$1,100,000	$275,000

(b)

Minimum Number of FTEs during Research Program Term	FTE Rate	Minimum Annual Payment by Calithera	Minimum Quarterly Payment by Calithera (Prorated for three (3) FTEs)
[*]	$275,000	$[*]	$[*]

(c)

	Q1	Q2	Q3	Q4
Minimum Fee (Prorated for [*] FTEs)	$[*]	$[*]	$[*]	$[*]
Maximum Fee (Prorated for four (4) FTEs)	$275,000	$275,000	$275,000	$275,000

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Schedule 7.10

HPP Wiring Instructions

Account Name:	High Point Pharmaceuticals LLC
Account Number:	[*]
Routing Number:	[*] (for domestic transfers)
SWIFT Code:	[*] (for international transfers)

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Schedule 12.5(a)

Transition of Regulatory Matters

[*]

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Schedule 12.5(b)

Transition of Pre-Clinical and Clinical Matters

[*]

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Schedule 13.12

Press Releases

Calithera Biosciences Gains Exclusive, Worldwide License to TransTech Pharma's Hexokinase II Inhibitor Program

South San Francisco, Calif., March 05, 2015 --(GLOBE NEWSWIRE)-- Calithera Biosciences, Inc. (NASDAQ:CALA), a clinical-stage pharmaceutical company focused on discovering and developing novel small molecule drugs directed against tumor metabolism and tumor immunology targets for the treatment of cancer, announced today an exclusive global license agreement with TransTech Pharma, a clinical stage pharmaceutical company, granting Calithera exclusive world-wide rights to research, develop and commercialize TransTech's portfolio of hexokinase II inhibitors. Hexokinase II is the first and rate-limiting enzyme in the pathway that enables cancer cells to convert glucose to energy and building blocks that feed cancer cell growth. Under the terms of the agreement, Calithera will obtain exclusive, worldwide rights to TransTech's hexokinase II inhibitors for research, development and commercialization. TransTech will receive an upfront payment and will be eligible to receive future development and commercialization milestones as well as royalties on sales of approved products.

"TransTech's hexokinase II inhibitor program will further expand Calithera's portfolio of pre-clinical programs and solidify our leadership in the area of tumor metabolism drug research and development as we are now able to target two essential nutrients that cancer cells rely on for growth and survival: glutamine and glucose," said Susan M. Molineaux, CEO, Calithera Biosciences. "We believe we can apply our expertise to rapidly advance TransTech's potent small-molecule hexokinase II inhibitors into the clinic to become our third potential first-in-class therapy for cancer patients."

About Tumor Metabolism and Hexokinase II Inhibitors

The field of tumor metabolism seeks to exploit the unique ways in which cancer cells take up and utilize nutrients in order to grow and proliferate. Cancer cells have altered cellular metabolic pathways to acquire and utilize these nutrients and redirect them to provide the necessary building blocks for growth. When these metabolic pathways are blocked, cancer cells are essentially starved of critical nutrients and stop growing or die, whereas normal cells are largely unaffected.

Most cancer cells have increased uptake of the sugar glucose relative to surrounding normal cells. This phenomenon forms the basis for the widely used tumor imaging procedure known as ^{18}F-2-deoxyglucose (FDG)/PET. Tumors take up more FDG, a radioactive glucose analog, than the surrounding normal tissue and this differential can be visualized with PET imaging. Not only do tumors take up more glucose, but they also utilize the nutrient in a unique way. Tumors convert glucose into lactic acid in a process known as aerobic glycolysis or the "Warburg effect", a route rarely utilized in normal cells. This unique uptake and processing of glucose by tumors relative to normal tissue creates an opportunity to selectively target tumors by cutting off their ability to use this fuel.

In many cancers, hexokinase II is over expressed and has been linked to more aggressive and invasive tumors. Pre-clinical studies in mice have confirmed that the reduction of hexokinase II activity through genetic deactivation (siRNA knockdown studies) results in a significant reduction of tumor growth. The hexokinase inhibitors in-licensed from TransTech may provide an opportunity to inhibit the unique way cancer cells utilize glucose, and the overall Warburg effect, which could result in new treatments for cancer.

About Calithera Biosciences

Calithera Biosciences, Inc. is a clinical-stage pharmaceutical company focused on discovering and developing novel small molecule drugs directed against tumor metabolism and tumor immunology targets for the treatment of cancer. Calithera's lead product candidate, CB-839, an orally bioavailable inhibitor of glutaminase, is currently being evaluated in three Phase 1 clinical trials in solid and hematological cancers. Calithera is headquartered in South San Francisco. For more information about Calithera, please visit www.calithera.com.

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

About TransTech Pharma

TransTech Pharma, LLC is a privately held, clinical-stage pharmaceutical company focused on the discovery and development of human therapeutics to fill unmet medical needs. The Company's high-throughput drug discovery platform, Translational Technology®, translates the functional modulation of human proteins into safe and effective medicines. TransTech Pharma, LLC has a pipeline of small-molecule clinical and pre-clinical drug candidates for the treatment of a wide range of human diseases, including central nervous system disorders, diabetes and metabolic disorders, inflammation and oncology. For further company information, visit http://www.ttpharma.com

Forward-Looking Statements

This news release contains forward-looking statements by Calithera that involve risks and uncertainties. These statements include those related to Calithera's ability to rapidly advance TransTech's potent small-molecule hexokinase II inhibitors into the clinic; that hexokinase II inhibitors may have therapeutic potential in the treatment of cancer; and the potential of tumor metabolism pathways to be transformational in the treatment of cancer. Actual results may differ from Calithera's expectations and important factors that could cause actual results to differ materially. Calithera's hexokinase II inhibitor program or other potential product candidates that Calithera develops may not progress through clinical development or receive required regulatory approvals within expected timelines or at all. In addition, clinical trials may not confirm any safety, potency or other product characteristics described or assumed in this press release. Such product candidates may not be beneficial to patients or successfully commercialized. The failure to meet expectations with respect to any of the foregoing matters may have a negative effect on Calithera's stock price. Additional information concerning these and other risk factors affecting Calithera's business can be found in Calithera's Quarterly Report on Form 10-Q for the period ended September 30, 2014 and other periodic filings with the Securities and Exchange Commission at www.sec.gov. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, Calithera disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

SOURCE: Calithera Biosciences, Incorporated

CONTACT:

Jennifer McNealey

Calithera Biosciences, Inc.

ir@Calithera.com

650-870-1071

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

TransTech Pharma and Calithera Biosciences Enter Into Worldwide Licensing Agreement for Hexokinase II Inhibitor Program

High Point, NC, March 05, 2015 - TransTech Pharma, LLC today announced a global licensing agreement granting Calithera Biosciences, Inc. exclusive world-wide rights to research, develop and commercialize TransTech's portfolio of hexokinase II inhibitors. TransTech will receive an upfront payment and will be eligible to receive future development and commercialization milestones as well as royalties on sales of approved products.

Hexokinase II is the first enzyme in the pathway that enables cancer cells to convert glucose to energy and building blocks required for cancer cell growth. The Warburg effect describes the particular reliance of cancer cells on glycolysis for energy and tumor cell survival. FDG-PET imaging of cancer and diagnosis in the clinic exploits the Warburg effect by detection of increased uptake of a glucose analogue by cancer cells. Increased glycolysis has been posited to be an essential part of carcinogenesis, conferring a significant growth advantage as well as promoting typical tumor progression making it a new promising modality for treatment of cancer.

"We are excited to be partnering our hexokinase II program with Calithera. We selected Calithera because of their specific expertise and focus in tumor metabolism research and development and look forward to our continued partnership. This portfolio of hexokinase II inhibitors was discovered using our Translational Technology® which has also been utilized in the discovery of our other clinical and preclinical programs," said Stephen L. Holcombe, President and CFO, TransTech Pharma, LLC.

About TransTech Pharma, LLC

TransTech Pharma, LLC is a privately held, clinical-stage pharmaceutical company focused on the discovery and development of human therapeutics to fill unmet medical needs. The Company's high-throughput drug discovery platform, Translational Technology®, translates the functional modulation of human proteins into safe and effective medicines. TransTech Pharma, LLC has a pipeline of small-molecule clinical and pre-clinical drug candidates for the treatment of a wide range of human diseases, including Alzheimer's disease, diabetes and other metabolic disorders, inflammation and oncology. For further company information, visit http://www.ttpharma.com

About Calithera Biosciences, Inc.

Calithera Biosciences, Inc. (NASDAQ:CALA) is a clinical-stage pharmaceutical company focused on discovering and developing novel small molecule drugs directed against tumor metabolism and tumor immunology targets for the treatment of cancer. Calithera's lead product candidate, CB-839, an orally bioavailable inhibitor of glutaminase, is currently being evaluated in three Phase 1 clinical trials in solid and hematological cancers. Calithera is headquartered in South San Francisco. For more information about Calithera, please visit www.calithera.com.

Contact:

TransTech Pharma, LLC
Nura Strong
336-841-0300 ext 164
nstrong@ttpharma.com

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Exhibit 31.1

CERTIFICATIONS

I, Susan M. Molineaux, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Calithera 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)):

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

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

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

5. The registrant's other certifying officer(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: May 11, 2015

/s/ Susan M. Molineaux

Susan M. Molineaux, Ph.D.
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, William D. Waddill, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Calithera 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)):

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

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

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

5. The registrant's other certifying officer(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: May 11, 2015

/s/ William D. Waddill

William D. Waddill

Senior Vice President, Chief Financial Officer, Treasurer and Secretary

Exhibit 32.1

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

In connection with the Quarterly Report of Calithera Biosciences, Inc. (the "Company") on Form 10-Q for the quarter ended March 31, 2015, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Susan M. Molineaux, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

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

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

/s/ Susan M. Molineaux
Susan M. Molineaux, Ph.D.
President and Chief Executive Officer

May 11, 2015

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

Exhibit 32.2

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

In connection with the Quarterly Report of Calithera Biosciences, Inc. (the "Company") on Form 10-Q for the quarter ended March 31, 2015, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, William D. Waddill, Senior Vice President, Chief Financial Officer, Treasurer and Secretary of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

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

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

/s/ William D. Waddill
William D. Waddill
Senior Vice President, Chief Financial Officer,
Treasurer and Secretary

May 11, 2015

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