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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 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: 000-21088

VICAL INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware	**93-0948554**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
10390 Pacific Center Court **San Diego, California**	**92121**
(Address of principal executive offices)	**(Zip Code)**

(858) 646-1100
(Registrant's telephone number, including area code)

(Former name, former address and former fiscal year, if changed since last report)

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 ☐ 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 ☒

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Total shares of common stock outstanding at April 30, 2015: 91,397,834

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VICAL INCORPORATED

FORM 10-Q

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

VICAL INCORPORATED
BALANCE SHEETS
(In thousands, except par value data)
(Unaudited)

	March 31, 2015	December 31, 2014
ASSETS		
Current assets:		
Cash and cash equivalents	$ 17,666	$ 20,471
Marketable securities, available-for-sale	23,385	23,499
Restricted cash	3,182	3,182
Receivables and other assets	3,709	4,178
Total current assets	47,942	51,330
Long-term investments	2,034	1,971
Property and equipment, net	2,427	2,639
Intangible assets, net	1,596	1,660
Other assets	379	379
Total assets	$ 54,378	$ 57,979
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	$ 4,099	$ 5,201
Deferred revenue	30	—
Total current liabilities	4,129	5,201
Long-term liabilities:		
Deferred rent	737	856
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.01 par value, 5,000 shares authorized, none issued and outstanding	—	—
Common stock, $0.01 par value, 160,000 shares authorized, 91,376 and 90,334 shares issued and outstanding at March 31, 2015, and December 31, 2014, respectively	914	903
Additional paid-in capital	448,019	446,698
Accumulated deficit	(399,488)	(395,667)
Accumulated other comprehensive income (loss)	67	(12)
Total stockholders' equity	49,512	51,922
Total liabilities and stockholders' equity	$ 54,378	$ 57,979

See accompanying notes to unaudited financial statements

VICAL INCORPORATED
STATEMENTS OF OPERATIONS
(In thousands, except per share data)
(Unaudited)

	Three Months Ended March 31,	
	2015	2014
Revenues:		
Contract and grant revenue	$ 4,274	$ 2,118
License and royalty revenue	670	329
Total revenues	4,944	2,447
Operating expenses:		
Research and development	3,637	2,146
Manufacturing and production	2,941	1,515
General and administrative	2,223	2,269
Total operating expenses	8,801	5,930
Loss from operations	(3,857)	(3,483)
Other income:		
Investment and other income, net	36	28
Net loss	$ (3,821)	$ (3,455)
Basic and diluted net loss per share	$ (0.04)	$ (0.04)
Weighted average shares used in computing basic and diluted net loss per share	90,870	87,110

See accompanying notes to unaudited financial statements

VICAL INCORPORATED
STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)
(Unaudited)

	Three Months Ended March 31,	
	2015	2014
Net loss	$(3,821)	$(3,455)
Other comprehensive loss:		
Unrealized gain (loss) on available-for-sale and long-term marketable securities:		
Unrealized gain (loss) arising during holding period	79	(17)
Other comprehensive gain (loss)	79	(17)
Total comprehensive loss	$(3,742)	$(3,472)

See accompanying notes to unaudited financial statements

VICAL INCORPORATED
STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Three Months Ended March 31,	
	2015	2014
Cash flows from operating activities:		
Net loss	$ (3,821)	$ (3,455)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	301	467
Write-off of abandoned patents and licensed technology	46	—
Compensation expense related to stock options and awards	571	837
Purchase of technology license with common stock	775	—
Changes in operating assets and liabilities:		
Receivables and other assets	469	213
Accounts payable and accrued expenses	(1,117)	(298)
Deferred revenue	30	(37)
Deferred rent	(103)	(87)
Net cash used in operating activities	(2,849)	(2,360)
Cash flows from investing activities:		
Maturities of marketable securities	4,023	6,240
Purchases of marketable securities	(3,912)	(1,804)
Purchases of property and equipment	(23)	(16)
Patent expenditures	(30)	(112)
Net cash provided by investing activities	58	4,308
Cash flows from financing activities:		
Net proceeds from issuance of common stock	2	—
Payment of withholding taxes for net settlement of restricted stock units	(16)	(29)
Net cash used in financing activities	(14)	(29)
Net (decrease) increase in cash and cash equivalents	(2,805)	1,919
Cash and cash equivalents at beginning of period	20,471	38,837
Cash and cash equivalents at end of period	$17,666	$40,756

See accompanying notes to unaudited financial statements

VICAL INCORPORATED
NOTES TO FINANCIAL STATEMENTS
March 31, 2015
(Unaudited)

1. BASIS OF PRESENTATION

Vical Incorporated, or the Company, a Delaware corporation, was incorporated in April 1987 and has devoted substantially all of its resources since that time to its research and development programs. The Company researches and develops biopharmaceutical products based on its patented DNA delivery technologies for the prevention and treatment of serious or life-threatening diseases.

All of the Company's potential products are in research and development phases. No revenues have been generated from the sale of any such products, nor are any such revenues expected for at least the next several years. The Company earns revenue from research and development agreements with pharmaceutical collaborators and grant and contract arrangements with government entities. Most of the Company's product candidates will require significant additional research and development efforts, including extensive preclinical and clinical testing. All product candidates that advance to clinical testing will require regulatory approval prior to commercial use, and will require significant costs for commercialization. There can be no assurance that the Company's research and development efforts, or those of its collaborators, will be successful. The Company expects to continue to incur substantial losses and not generate positive cash flows from operations for at least the next several years. No assurance can be given that the Company can generate sufficient product revenue to become profitable or generate positive cash flows from operations.

The unaudited financial statements at March 31, 2015, and for the three months ended March 31, 2015 and 2014, have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission, or SEC, and with accounting principles generally accepted in the United States applicable to interim financial statements. These unaudited financial statements have been prepared on the same basis as the audited financial statements included in the Company's Annual Report on Form 10-K and include all adjustments, consisting of only normal recurring accruals, which in the opinion of management are necessary to present fairly the Company's financial position as of the interim date and results of operations for the interim periods presented. Interim results are not necessarily indicative of results expected for a full year or future periods. The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from those estimates. These unaudited financial statements should be read in conjunction with the Company's audited financial statements for the year ended December 31, 2014, included in its Annual Report on Form 10-K filed with the SEC.

Cash, Cash Equivalents and Marketable Securities

Cash and cash equivalents consist of cash and highly liquid securities with original maturities at the date of acquisition of ninety days or less and can be liquidated without prior notice or penalty. Investments with an original maturity of more than ninety days are considered marketable securities and have been classified by management as available-for-sale. These investments are classified as current assets, even though the stated maturity date may be one year or more beyond the current balance sheet date which reflects management's intention to use the proceeds from sales of these securities to fund its operations, as necessary. Such investments are carried at fair value, with unrealized gains and losses included as a separate component of stockholders' equity. Realized gains and losses from the sale of available-for-sale securities or the amounts, net of tax, reclassified out of accumulated other comprehensive income (loss), if any, are determined on a specific identification basis.

Restricted Cash

The Company is required to maintain a letter of credit securing an amount equal to twelve months of the current monthly installment of base rent for the term of its primary facilities lease, which ends in August 2017. Under certain circumstances, the Company may be able to eliminate the need for the letter of credit. As of each of March 31, 2015, and December 31, 2014, restricted cash of $3.2 million was pledged as collateral for this letter of credit.

Revenue Recognition

Revenue is recognized when the four basic criteria of revenue recognition are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services rendered; (3) the fee is fixed or determinable; and (4) collectability is reasonably assured. Certain of the Company's revenue is generated through manufacturing contracts and stand-alone license agreements.

Multiple-element arrangements

The Company has entered into multiple-element arrangements. In order to account for the multiple-element arrangements, the Company identifies the deliverables included within the agreement and evaluates which deliverables represents separate units of accounting. Analyzing the arrangement to identify deliverables requires the use of judgment, and each deliverable may be an obligation to deliver services, a right or license to use an asset, or another performance obligation. The delivered item(s) must have value to the customer on a standalone basis and, if the arrangement includes a general right of return relative to the delivered item, delivery or performance of the undelivered item(s) is considered probable and substantially in the Company's control.

A delivered item is considered a separate unit of accounting when the delivered item has value to the partner on a standalone basis based on the consideration of the relevant facts and circumstances for each arrangement. Factors considered in this determination include the research capabilities of the partner and the availability of research expertise in this field in the general marketplace. Arrangement consideration is allocated at the inception of the agreement to all identified units of accounting based on their relative selling price. The relative selling price for each deliverable is determined using vendor specific objective evidence, or VSOE, of selling price or third-party evidence of selling price if VSOE does not exist. If neither VSOE nor third-party evidence of selling price exists, the Company uses its best estimate of the selling price for the deliverable. The amount of allocable arrangement consideration is limited to amounts that are fixed or determinable. The consideration received is allocated among the separate units of accounting, and the applicable revenue recognition criteria are applied to each of the separate units. Changes in the allocation of the sales price between delivered and undelivered elements can impact revenue recognition but do not change the total revenue recognized under any agreement. If facts and circumstances dictate that the license has standalone value from the undelivered items, which generally include research and development services and the manufacture of drug products, the license is identified as a separate unit of accounting and the amounts allocated to the license are recognized upon the delivery of the license, assuming the other revenue recognition criteria have been met. However, if the amounts allocated to the license through the relative selling price allocation exceed the upfront license fee, the amount recognized upon the delivery of the license is limited to the upfront fee received. If facts and circumstances dictate that the license does not have standalone value, the transaction price, including any upfront license fee payments received, are allocated to the identified separate units of accounting and recognized as those items are delivered.

The terms of the Company's partnership agreements provide for milestone payments upon achievement of certain regulatory and commercial events. Under the Milestone Method, the Company recognizes consideration that is contingent upon the achievement of a milestone in its entirety as revenue in the period in which the milestone is achieved only if the milestone is substantive in its entirety. A milestone is considered substantive when it meets all of the following three criteria: 1) The consideration is commensurate with either the entity's performance to achieve the milestone or the enhancement of the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone, 2) The consideration relates solely to past performance, and 3) The consideration is reasonable relative to all of the deliverables and payment terms within the arrangement. A milestone is defined as an event (i) that can only be achieved based in whole or in part on either the entity's performance or on the occurrence of a specific outcome resulting from the entity's performance, (ii) for which there is substantive uncertainty at the date the arrangement is entered into that the event will be achieved and (iii) that would result in additional payments being due to the Company.

Contract Services, Grant and Royalty Revenue

The Company recognizes revenues from contract services and federal government research grants during the period in which the related expenditures are incurred and related payments for those services are received or collection is reasonably assured. Royalties to be received based on sales of licensed products by the Company's partners incorporating the Company's licensed technology are recognized when received.

Manufacturing and Production Costs

Manufacturing and production costs include expenses related to manufacturing contracts and expenses for the production of plasmid DNA for use in the Company's research and development efforts. Manufacturing expenses related to manufacturing contracts are deferred and expensed when the related revenue is recognized. Production expenses related to the Company's research and development efforts are expensed as incurred.

Net Loss Per Share

Basic and diluted net loss per share has been computed using the weighted-average number of shares of common stock outstanding during the period. The weighted average number of shares used to compute diluted loss per share excludes any assumed exercise of stock options and any assumed issuance of common stock under restricted stock units as the effect would be antidilutive. Common stock equivalents of 0.7 million and 0.6 million for the three months ended March 31, 2015 and 2014, respectively, were excluded from the calculation because of their antidilutive effect.

Stock-Based Compensation

The Company records its compensation expense associated with stock options and other forms of equity compensation based on their fair value at the date of grant using the Black-Scholes-Merton option pricing model. Stock-based compensation includes amortization related to stock option awards based on the estimated grant date fair value. Stock-based compensation expense related to stock options includes an estimate for forfeitures and the portion that is ultimately expected to vest is recognized ratably over the vesting period of the option. In addition, the Company records expense related to RSUs granted based on the fair value of those awards on the grant date. The fair value related to the RSUs is amortized to expense over the vesting term of those awards. Stock-based compensation expense related to RSUs includes an estimate for forfeitures and the portion expected to vest is recognized ratably over the requisite service period. The expected forfeiture rate of all equity-based compensation is based on observed historical patterns of the Company's employees and is estimated to be 8.75% and 11.2% annually for each of the three months ended March 31, 2015 and 2014, respectively.

Stock-based compensation expense for a stock-based award with a performance condition is recognized when the achievement of such performance condition is determined to be probable. If the outcome of such performance condition is not determined to be probable or is not met, no compensation expense is recognized and any recognized compensation expense is reversed.

Recent Accounting Pronouncements

In May 2014, the FASB issued guidance that outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. The guidance provides that an entity recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This guidance also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments, and assets recognized from costs incurred to obtain or fulfill a contract. The guidance allows for either full retrospective or modified retrospective adoption and will become effective for the Company in the first quarter of 2018. The Company is evaluating the alternative transition methods and the potential effects of the adoption of this update on its financial statements.

In August 2014, the FASB issued an amendment to the accounting guidance related to the evaluation of an entity to continue as a going concern. The amendment establishes management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern in connection with preparing financial statements for each annual and interim reporting period. The amendment also gives guidance to determine whether to disclose information about relevant conditions and events when there is substantial doubt about an entity's ability to continue as a going concern. The amended guidance is effective prospectively for fiscal years beginning after December 15, 2016. The new guidance will not have an impact on the Company's financial position, results of operations or cash flows.

2. STOCK-BASED COMPENSATION

Total stock-based compensation expense was allocated to research and development, manufacturing and production and general and administrative expense as follows (in thousands):

	Three Months Ended March 31,	
	2015	2014
Research and development	$ 111	$ 210
Manufacturing and production	34	45
General and administrative	426	582
Total stock-based compensation expense	$ 571	$ 837

During the three months ended March 31, 2015 and 2014, the Company granted stock-based awards with a total estimated value of $1.7 million and $2.1 million, respectively. At March 31, 2015, total unrecognized estimated compensation expense related to unvested stock-based awards granted prior to that date was $2.8 million, which is expected to be recognized over a weighted-average period of 1.4 years. Stock-based awards granted during the three months ended March 31, 2015 and 2014, were equal to 2.9% and 2.7%, respectively, of the outstanding shares of common stock at the end of the applicable period.

3. MARKETABLE SECURITIES, AVAILABLE FOR SALE

The following is a summary of available-for-sale marketable securities (in thousands):

March 31, 2015	Amortized Cost	Unrealized Gain	Unrealized Loss	Market Value
U.S. treasuries	$ 5,548	$ 4	$ —	$ 5,552
Government-sponsored enterprise securities	5,499	1	—	5,500
Corporate bonds	2,018	—	1	2,017
Certificates of deposit	10,316	—	—	10,316
	$ 23,381	$ 5	$ 1	$23,385

December 31, 2014	Amortized Cost	Unrealized Gain	Unrealized Loss	Market Value
U.S. treasuries	$ 5,558	$ —	$ 1	$ 5,557
Government-sponsored enterprise securities	7,499	—	6	7,493
Corporate bonds	2,025	—	5	2,020
Certificates of deposit	8,429	—	—	8,429
	$ 23,511	$ —	$ 12	$23,499

At March 31, 2015, $6.3 million of these securities were scheduled to mature outside of one year. The Company did not realize any gains or losses on sales of available-for-sale securities for the three months ended March 31, 2015. As of March 31, 2015, none of the securities had been in a continuous material unrealized loss position longer than one year.

4. OTHER BALANCE SHEET ACCOUNTS

Accounts payable and accrued expenses consisted of the following (in thousands):

	March 31, 2015	December 31, 2014
Employee compensation	$ 1,432	$ 2,471
Clinical trial accruals	1,091	1,686
Accounts payable	670	227
Deferred rent	448	432
Other accrued liabilities	458	385
Total accounts payable and accrued expenses	$ 4,099	$ 5,201

5. LONG-TERM INVESTMENTS

As of March 31, 2015, the Company held an auction rate security with a par value of $2.5 million. This auction rate security has not experienced a successful auction since the liquidity issues experienced in the global credit and capital markets in 2008. As a result, the security is classified as a long-term investment as it is scheduled to mature in 2038. The security was rated A- by Standard and Poor's as of March 31, 2015. The security continues to pay interest according to its stated terms.

The valuation of the Company's auction rate security is subject to uncertainties that are difficult to predict. The fair value of the security is estimated utilizing a discounted cash flow analysis. The key drivers of the valuation model include the expected term, collateral underlying the security investment, the creditworthiness of the counterparty, the timing of expected future cash flows, discount rates, liquidity and the expected holding period. The security was also compared, when possible, to other observable market data for securities with similar characteristics. Based on the valuation of the security, the Company has recognized cumulative losses of $0.5 million as of March 31, 2015, none of which were realized during the three months ended March 31, 2015. The losses when recognized are included in investment and other income. The market value of the security has partially recovered. Included in other comprehensive income (loss) are unrealized gains (losses) of $63,000 and $(12,000) for the three months ended March 31, 2015 and 2014, respectively. As of March 31, 2015, the Company had recorded cumulative unrealized gains of $0.2 million. The resulting carrying value of the auction rate security at March 31, 2015, was $2.0 million. Any future decline in market value may result in additional losses being recognized.

6. FAIR VALUE MEASUREMENTS

The Company measures fair value as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. Fair value measurements are based on a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

- Level 1: Observable inputs such as quoted prices in active markets;
- Level 2: Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and
- Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

Cash equivalents, marketable securities and long-term investments measured at fair value are classified in the table below in one of the three categories described above (in thousands):

	Fair Value Measurements			
March 31, 2015	**Level 1**	**Level 2**	**Level 3**	**Total**
Certificates of deposit	$10,561	$ —	$ —	$10,561
Money market funds	—	—	—	—
U.S. treasuries	5,552	—	—	5,552
Corporate bonds	—	2,017	—	2,017
Government-sponsored enterprise securities	—	5,500	—	5,500
Auction rate securities	—	—	2,034	2,034
	$16,113	$7,517	$2,034	$25,664

	Fair Value Measurements			
December 31, 2014	**Level 1**	**Level 2**	**Level 3**	**Total**
Certificates of deposit	$ 8,674	$ —	$ —	$ 8,674
Money market funds	169	—	—	169
U.S. treasuries	5,557	—	—	5,557
Corporate bonds	—	2,020	—	2,020
Government-sponsored enterprise securities	—	7,493	—	7,493
Auction rate securities	—	—	1,971	1,971
	$14,400	$9,513	$1,971	$25,884

The Company's investments in U.S. treasury securities, certificates of deposit and money market funds are valued based on publicly available quoted market prices for identical securities as of March 31, 2015. The Company determines the fair value of corporate bonds and other government-sponsored enterprise related securities with the aid of valuations provided by third parties using proprietary valuation models and analytical tools. These valuation models and analytical tools use market pricing or similar instruments that are both objective and publicly available, including matrix pricing or reported trades, benchmark yields, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids and/or offers. The Company validates the valuations received from its primary pricing vendors for its level 2 securities by examining the inputs used in that vendor's pricing process and determines whether they are reasonable and observable. The Company also compares those valuations to recent reported trades for those securities. The Company did not adjust any of the valuations received from these independent third parties with respect to any of its level 2 securities at March 31, 2015. The Company did not transfer any investments between level categories during the three months ended March 31, 2015. The valuation of the Company's investments in auction rate securities, which includes significant unobservable inputs, is more fully described in Note 5.

Activity for assets measured at fair value using significant unobservable inputs (Level 3) is presented in the table below (in thousands):

	Three Months Ended March 31, 2015
Balance at December 31, 2014	$ 1,971
Total net unrealized gains, excluding tax impact, included in other comprehensive loss	63
Balance at March 31, 2015	$ 2,034
Total gains or losses for the period included in net loss attributable to the change in unrealized gains or losses relating to assets still held at the reporting date	$ —

7. COMMITMENTS AND CONTINGENCIES

In late October and early November 2013, following the Company's announcement of the results of its Phase 3 trial of Allovectin® and the subsequent decline of the price of its common stock, two putative securities class action complaints were filed in the U.S. District Court for the Southern District of California against the Company and certain of its current and former officers. On February 26, 2014, the two cases were consolidated into one action and a lead plaintiff and lead counsel were appointed. On May 12, 2014, the lead plaintiff filed a first amended consolidated complaint alleging that the defendants violated Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 by making materially false and misleading statements regarding the Company's business prospects and the prospects for Allovectin®, thereby artificially inflating the price of the Company's common stock. On June 9, 2014, defendants filed a motion to dismiss the first amended complaint and a motion to strike certain allegations in the amended complaint. On March 9, 2015, the Court granted defendants' motion to dismiss the first amended complaint and terminated as moot defendants' motion to strike. Lead plaintiff was granted leave to amend his first amended complaint on or before March 25, 2015. Lead plaintiff chose not to amend his complaint and instead stipulated to an entry of judgment. On April 28, 2015, the Court entered final judgment dismissing the action.

In the ordinary course of business, the Company may become a party to additional lawsuits involving various matters. The Company is unaware of any such lawsuits presently pending against it which, individually or in the aggregate, are deemed to be material to the Company's financial condition or results of operations.

The Company prosecutes its intellectual property vigorously to obtain the broadest valid scope for its patents. Due to uncertainty of the ultimate outcome of these matters, the impact on future operating results or the Company's financial condition is not subject to reasonable estimates.

8. ASTELLAS OUT-LICENSE AGREEMENTS

In July 2011, the Company entered into license agreements with Astellas Pharma Inc., or Astellas, granting Astellas exclusive, worldwide, royalty-bearing licenses under certain of the Company's know-how and intellectual property to develop and commercialize certain products containing plasmids encoding certain forms of cytomegalovirus, glycoprotein B and/or phosphoprotein 65, including ASP0113 (TransVax™) but excluding CyMVectin™.

Under the terms of the license agreements, Astellas paid a nonrefundable upfront license fee of $25.0 million in 2011. The Company also received a $10.0 million milestone payment in March 2012 upon finalization of the general trial design for a Phase 3 registration trial of ASP0113 in hematopoietic stem cell transplant recipients. The Company recognized $0.5 million and $0.3 million in license revenue under the Astellas agreements during the three months ended March 31, 2015 and 2014, respectively.

Under the terms of the agreements, the Company is also performing research and development services and manufacturing services which are being paid for by Astellas. During the three months ended March 31, 2015 and 2014, the Company recognized $4.3 million and $2.1 million, respectively, of revenue related to these contract services.

9. ASTELLAS IN-LICENSE AGREEMENTS

In March 2015, the Company entered into license and stock purchase agreements with Astellas, granting Vical exclusive worldwide license to develop and commercialize a novel antifungal, ASP2397. ASP2397 is a potential therapeutic for invasive fungal infections, including invasive aspergillosis. Astellas received 861,216 shares of unregistered Vical common stock and $250,000 in cash. The $250,000 cash payment and the fair value of the common stock issued of $775,094 were included in research and development expenses during the three months ending March 31, 2015. Astellas will also be eligible to receive up to $100 million in aggregate milestone payments, the vast majority of which are commercial and sales milestones, and single-digit royalties on net sales of commercial products.

10. SUBSEQUENT EVENT

In April 2015, the Company entered into a $4 million contract with the IPPOX Foundation to manufacture HIV-antigen plasmid DNA as a component of vaccine regimens to be evaluated in clinical trials for the prevention of HIV infection.

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

This Quarterly Report on Form 10-Q, or Report, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, including statements regarding our business, our financial position, the research and development of biopharmaceutical products based on our patented DNA delivery and other technologies, the funding of our research and development efforts, and other statements describing our goals, expectations, intentions or beliefs. Such statements reflect our current views and assumptions and are subject to risks and uncertainties, particularly those inherent in the process of developing and commercializing biopharmaceutical products based on our patented DNA delivery and other technologies. Actual results could differ materially from those projected herein. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in our Annual Report on Form 10-K for the year ended December 31, 2014, and in our other filings with the SEC, and those identified in Part II, Item 1A entitled "Risk Factors" beginning on page 22 of this Report. As a result, you are cautioned not to rely on these forward-looking statements. We disclaim any duty to update any forward-looking statement to reflect events or circumstances that occur after the date on which such statement is made.

Overview

We research and develop biopharmaceutical products based on our patented DNA delivery technologies for the prevention and treatment of serious or life-threatening diseases.

We currently have four active, independent or partnered, development programs in the area of infectious disease comprised of:

- An ongoing Phase 3 clinical trial of ASP0113 for prevention of cytomegalovirus, or CMV, reactivation in stem cell transplant recipients and an ongoing Phase 2 clinical trial of ASP0113 for prevention of CMV infection in kidney transplant recipients, both in collaboration with Astellas Pharma Inc., or Astellas. Astellas expects enrollment in the Phase 3 clinical trial to be completed by the end of this year and enrollment in the Phase 2 trial to be completed by June 30, 2015;
- An ongoing Phase 1/2 clinical trial using our Vaxfectin®-formulated therapeutic vaccine for herpes simplex virus type 2, or HSV-2, a cause of recurrent genital herpes;
- An ongoing preclinical program of ASP2397 for invasive Aspergillus infections, which are major causes of morbidity and mortality in immunocompromised patients, including transplant recipients. We expect to initiate a Phase 1 trial of ASP2397 in the first half of 2016; and
- A completed preclinical program, with an allowed investigational new drug application, or IND, using our CyMVectin™ prophylactic vaccine formulated with our proprietary Vaxfectin® adjuvant to prevent CMV infection during pregnancy.

In addition, we have licensed complementary technologies from leading research institutions and biopharmaceutical companies.

Product Development

We, together with our licensees and collaborators, are currently developing a number of DNA-based vaccines and other therapeutics for the prevention or treatment of infectious diseases. The table below summarizes our independent programs and corporate and government collaborations.

Product/Concept	Intended Use	Development Status[1]	Lead Developer
Independent Programs			
Therapeutic and prophylactic vaccines for HSV-2	Prevent and protect against recurring flare-ups, reduce viral shedding and transmission	Phase 1/2	Vical
CyMVectin™ prophylactic vaccine for CMV	Prevent infection during pregnancy to preclude fetal transmission	Preclinical complete	Vical
ASP 2397 antifungal	Treatment of invasive fungal infections	Preclinical	Vical
Corporate Collaborations			
ASP0113 therapeutic vaccine for CMV	Protect against infection after stem cell transplants	Phase 3	Astellas
ASP0113 therapeutic vaccine for CMV	Protect against infection after solid organ transplants	Phase 2	Astellas
ONCEPT® therapeutic cancer vaccine encoding human tyrosinase	Adjunct treatment to increase survival time of dogs with oral melanoma	Marketed in the United States	Merial
Government Collaboration			
Tetravalent dengue vaccine	Prevent dengue disease caused by all 4 dengue serotypes	Phase 1	Naval Medical Research Center

[1] "Preclinical" indicates that a specific product candidate in a nonclinical setting has shown functional activity that is relevant to a targeted medical need, and is advancing toward initial human clinical testing. "Phase 1" clinical trials are typically conducted with a small number of patients or healthy subjects to evaluate safety, determine a safe dosage range, identify side effects, and, if possible, gain early evidence of effectiveness. "Phase 2" clinical trials are conducted with a larger group of patients to evaluate effectiveness of an investigational product for a defined patient population, and to determine common short-term side effects and risks associated with the product candidate. "Phase 3" clinical trials involve large scale, multi-center, comparative trials that are conducted with patients afflicted with a target disease to evaluate the overall benefit-risk relationship of the investigational product and to provide an adequate basis for product labeling.

Research, Development and Manufacturing Programs

To date, we have not received revenues from the sale of our independently developed pharmaceutical products and have received minimal revenues from the sale of commercially marketed products by our licensees. We earn revenues by performing services under research and development and manufacturing contracts, from grants and from licensing access to our proprietary technologies. Revenues by source were as follows (in millions):

	Three Months Ended March 31,	
Source	2015	2014
Astellas supply and services contract	$ 4.3	$ 2.1
Other contract and grants	—	0.0
Total contract and grant revenues	4.3	2.1
Astellas license	$ 0.5	$ 0.3
Other royalties and licenses	0.1	0.0
Total royalty and license revenues	0.6	0.3
Total revenues	$ 4.9	$ 2.4

Research, development, manufacturing and production costs by major program, as well as other costs, were as follows (in millions):

	Three Months Ended March 31,	
Program	2015	2014
Allovectin®	$ —	$ 0.1
CMV	3.8	2.6
HSV-2	1.3	0.7
Other research, development, manufacturing and production	1.5	0.3
Total research, development, manufacturing and production	$ 6.6	$ 3.7

Our current independent development focus is on our novel DNA vaccines for HSV-2 and CMV, and other targets.

We are developing HSV-2 and CyMVectin™ vaccine candidates, and these programs will require significant additional funds to advance through development to commercialization. From inception through March 31, 2015, we have spent approximately $15.1 million on our HSV-2 program and $98.5 million on our CMV programs including ASP0113.

We have other product candidates in the research stage. It can take many years to develop product candidates from the initial decision to screen product candidates, perform preclinical and safety studies, and perform clinical trials leading up to possible approval of a product by the U.S. Food and Drug Administration, or FDA, or comparable foreign agencies. The outcome of the research is unknown until each stage of the testing is completed, up through and including the registration of clinical trials. Accordingly, we are unable to predict which potential product candidates we may proceed with, the time and cost to complete development, and ultimately whether we will have a product approved by the FDA or comparable foreign agencies.

As a result, we expect to incur substantial operating losses for at least the next several years, due primarily to the advancement of our research and development programs, the cost of preclinical studies and clinical trials, spending for outside services, costs related to maintaining our intellectual property portfolio, costs due to manufacturing activities, costs related to our facilities, and possible advancement toward commercialization activities.

Critical Accounting Policies and Estimates

The preparation and presentation of financial statements in accordance with accounting principles generally accepted in the United States requires that management make a number of assumptions and estimates that affect the reported amounts of assets, liabilities, revenues and expenses in our financial statements and accompanying notes. Management bases its estimates on historical information and assumptions believed to be reasonable. Although these estimates are based on management's best knowledge of current events and circumstances that may impact us in the future, they are inherently uncertain and actual results may differ materially from these estimates.

Our critical accounting policies are those that affect our financial statements materially and involve a significant level of judgment by management. Our critical accounting policies regarding revenue recognition are in the following areas: license and royalty agreements, manufacturing contracts, contract services and grant revenues. Our critical accounting policies also include recognition of research and development expenses and the valuation of long-lived and intangible assets.

There have been no material changes to our critical accounting policies and estimates as compared to those discussed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2014.

Recent Accounting Pronouncements

For information on the recent accounting pronouncements which may impact our business, see Note 1 of the Notes to Financial Statements included in this Report.

Results of Operations

Three Months Ended March 31, 2015, Compared with Three Months Ended March 31, 2014

Total Revenues. Total revenues increased $2.5 million to $4.9 million for the three months ended March 31, 2015, from $2.4 million for the three months ended March 31, 2014. This increase was primarily due to an increase in the delivery of ASP0113 under our license agreements with Astellas.

Research and Development Expenses. Research and development expenses increased $1.5 million, or 69.5%, to $3.6 million for the three months ended March 31, 2015, from $2.1 million for the three months ended March 31, 2014. This increase was primarily due to $1.1 million in expenses recognized in connection with the in-license of ASP2397 in March 2015 from Astellas combined with an increase in clinical trial costs associated with our HSV-2 program.

Manufacturing and Production Expenses. Manufacturing and production expenses increased $1.4 million, or 94.1%, to $2.9 million for the three months ended March 31, 2015, from $1.5 million for the three months ended March 31, 2014. This increase was primarily due to a $1.4 million decrease in net deferred contract costs capitalized during the three months ended March 31, 2015 related to in-process clinical trial materials manufactured under our ASP0113 license agreements with Astellas. The decrease in in net deferred contract cost was primarily the result of increased deliveries of ASP0013 during the three months ended March 31, 2015.

General and Administrative Expenses. General and administrative expenses decreased $0.1 million, or 2.0%, to $2.2 million for the three months ended March 31, 2015, from $2.3 million for the three months ended March 31, 2014. This decrease was primarily due to a decrease in employee stock based compensation.

Investment and Other Income, Net. Investment and other income, net, decreased $8,000 to $36,000 for the three months ended March 31, 2015, from $28,000 for the three months ended March 31, 2014.

Liquidity and Capital Resources

Since our inception, we have financed our operations primarily through private placements and public offerings of equity securities, and revenues from our operations. Cash, cash equivalents, marketable securities, and long-term investments, including restricted cash, totaled $46.3 million at March 31, 2015, compared with $49.1 million at December 31, 2014. The decrease in our cash, cash equivalents and marketable securities for the three months ended March 31, 2015, was primarily the result of the use of cash to fund our operations.

Net cash used in operating activities was $2.8 million and $2.4 million for the three months ended March 31, 2015 and 2014, respectively. The increase in net cash used in operating activities for the three months ended March 31, 2015, compared with the prior year period, was primarily the result of a decrease in accrued employee compensation.

Net cash provided by investing activities were $58,000 and $4.3 million for the three months ended March 31, 2015 and 2014, respectively. The decrease in net cash provided by investing activities for the three months ended March 31, 2015, compared with the prior year period, was primarily the result of a decrease in net maturities of marketable securities.

Net cash used by financing activities was $14,000 and $29,000 for the three months ended March 31, 2015 and 2014, respectively. The decrease in net cash used in financing activities for the three months ended March 31, 2015, compared with the prior year period, was primarily the result of a decrease in the payment of withholding taxes for the net settlement of restricted stock units.

A discussion of our exposure to auction rate securities is included in Part 1, Item 3 of this Report under the heading "Quantitative and Qualitative Disclosures About Market Risk."

In the long-term, we expect to incur substantial additional research and development expenses, manufacturing and production expenses, and general and administrative expenses, including increases in costs related to personnel, preclinical and clinical testing, outside services, facilities, intellectual property and possible commercialization. Our future capital requirements will depend on many factors, including continued scientific progress in our research and development programs, the scope and results of preclinical testing and clinical trials, the time and costs involved in obtaining regulatory approvals, the costs involved in filing, prosecuting, enforcing and defending patent claims, the impact of competing technological and market developments, the cost of manufacturing scale-up and validation, and possible commercialization activities and arrangements. We may seek additional funding through research and development relationships with suitable potential corporate collaborators. We may also seek additional funding through public or private financings. We currently have on file an effective shelf registration statement that allows us to raise up to $145.9 million from the sale of common stock, preferred stock, debt securities and/or warrants. However, additional financing may not be available on favorable terms or at all. If additional financing is not available, we anticipate that our available cash and existing sources of funding will be adequate to satisfy our cash needs at least through December 31, 2016.

In November 2012, we entered into an At-The-Market Equity Offering Sales Agreement, or Sales Agreement, with Stifel, Nicolaus & Company, Incorporated, or Stifel, under which we may issue and sell up to $50.0 million of shares of our common stock from time to time. Under the Sales Agreement, we will set the parameters for the sale of shares, including the number of shares to be issued and any minimum price below which sales may not be made. Subject to the terms and conditions of the Sales Agreement, shares may be sold through Stifel acting as sales agent or directly to Stifel acting as principal, by means of ordinary brokers' transactions on the Nasdaq Global Select Market, in privately negotiated transactions or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices. Any sales other than by methods deemed to be an "at the market" offering as defined in Rule 415 promulgated under the Securities Act will require our prior consent. Stifel is obligated to use commercially reasonable efforts in conducting sales activities consistent with its normal trading and sales practices. The Sales Agreement may be terminated by us upon prior notice to Stifel or by Stifel upon prior notice to us, or at any time under certain circumstances, including but not limited to the occurrence of a material adverse change in our Company.

The Sales Agreement provides that Stifel will be entitled to compensation for its services in an amount equal to 2.5% of the gross proceeds from the sale of shares sold through Stifel under the Sales Agreement. We have no obligation to sell any shares under the Sales Agreement and may at any time suspend offers under the Sales Agreement. We agreed in the Sales Agreement to provide indemnification and contribution to Stifel against certain liabilities, including liabilities under the Securities Act, and to reimburse Stifel for certain legal expenses incurred in connection with the Sales Agreement.

In April 2014, we entered into an At-the-Market Issuance Sales Agreement, or ATM Agreement, with Meyers Associates, L.P. (doing business as Brinson Patrick, a division of Meyers Associates, L.P.), or Brinson Patrick, under which we may issue and sell up to $25.0 million of shares of our common stock from time to time. Under the ATM Agreement, we may deliver placement notices that will set the parameters for the sale of shares, including the number of shares to be issued, the time period during which sales are requested to be made, any limitation on the number of shares that may be sold in any one trading day and any minimum price below which sales may not be made. Subject to the terms and conditions of the ATM Agreement, Brinson Patrick may sell the shares only by methods deemed to be an "at the market" offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including without limitation sales made directly through the Nasdaq Global Market, on any other existing trading market for our common stock or to or through a market maker. Brinson Patrick will use commercially reasonable efforts consistent with its normal trading and sales practices to sell the shares in accordance with the terms of the ATM Agreement and any applicable placement notice. The ATM Agreement may be terminated by us upon prior notice to Brinson Patrick or by Brinson Patrick upon prior notice to us, or at any time under certain circumstances, including but not limited to the occurrence of a material adverse effect on our Company.

The ATM Agreement provides that Brinson Patrick will be entitled to compensation for its services in an amount up to 2.5% of the gross proceeds from the sale of shares sold through Brinson Patrick under the ATM Agreement. We have no obligation to sell any shares under the ATM Agreement, and both we and Brinson Patrick may at any time suspend the sale of shares under the ATM Agreement. We have also agreed to provide indemnification and contribution to Brinson Patrick against certain liabilities. To date we have sold 3,291,521 shares under the sales agreement and received gross proceeds of $4,067,751. There were no sales under the sales agreement during the three months ended March 31, 2015.

Contractual Obligations

Under our out-license agreements with Astellas, we are required to make certain payments to the City of Hope and CytRx in connection with the development and commercialization of our products licensed by Astellas. In addition, certain technology license agreements require us to make other payments if we or our sublicensees advance products through clinical development. For programs developed with the support of U.S. government funding, the U.S. government may have rights to resulting products without payment of royalties to us.

We may be required to make future payments to our licensors based on the achievement of milestones set forth in various in-licensing agreements, including our in-license agreement with Astellas related to ASP2397. In most cases, these milestone payments are based on the achievement of development or regulatory milestones, including the exercise of options to obtain licenses related to specific disease targets, commencement of various phases of clinical trials, filing of product license applications, approval of product licenses from the FDA or a foreign regulatory agency, and the first commercial sale of a related product. Payment for the achievement of milestones under our in-license agreements is highly speculative and subject to a number of contingencies.

The aggregate amount of additional milestone payments that we could be required to pay under our active in-license agreements in place at March 31, 2015, is approximately $107.0 million. These amounts assume that all remaining milestones associated with the milestone payments are met. In the event that product license approval for any of the related products is obtained, we may be required to make royalty payments in addition to these milestone payments. Although we believe that some of the milestones contained in our in-license agreements may be achieved, it is highly unlikely that a significant number of them will be achieved. Because the milestones are contingent, we are not in a position to reasonably estimate how much, if any, of the potential milestone payments will ultimately be paid, or when. Additionally, under the in-license agreements, many of the milestone events are related to progress in clinical trials which will take several years to achieve.

In addition, we have undertaken certain commitments under license agreements with collaborators, and under indemnification agreements with our officers and directors. Under the license agreements with our collaborators, we have agreed to continue to maintain and defend the patent rights licensed to the collaborators and, in the case of our agreements with Astellas, have agreed to undertake certain development and manufacturing activities. Under the indemnification agreements with our officers and directors, we have agreed to indemnify those individuals for any expenses and liabilities in the event of a threatened, pending or actual investigation, lawsuit, or criminal or investigative proceeding.

We have employment agreements that contain severance arrangements with our chief executive officer, or CEO, and our four other executives. Under the agreement with our CEO, we are obligated to pay severance if we terminate the CEO's employment without "cause," or if the CEO resigns for "good reason," as defined in the agreement, within the periods set forth therein. The severance for the CEO consists of continued base salary payments at the then-current rate, including the payment of health insurance premiums for 18 months, plus a payment equal to one and one-half times the CEO's cash bonus in the previous year. In addition, the CEO receives accelerated vesting on all his unvested stock awards as if he had remained employed by us for 18 months from the date of termination. In the event that the termination occurs within 24 months of a "change in control," as defined in the agreement, the severance for the CEO consists of a lump sum payment equal to 24 months of base salary at the then-current rate, the payment of health insurance premiums for 18 months, plus a payment equal to one and one-half times the CEO's cash bonus in the previous year. In addition, all outstanding unvested stock awards will vest immediately. Under the agreements with our other four executives, we are obligated to pay severance if we terminate the executive's employment without "cause," or if the executive resigns for "good reason," as defined in the agreements, within the periods set forth therein. The severance for the other executives consists of a lump-sum payment equal to 12 months of base salary at the then-current rate, including the payment of health insurance premiums for 12 months, plus a payment equal to the executive's cash bonus in the previous year. In addition, the executive receives accelerated vesting on all his unvested stock awards as if he had remained employed by us for 12 months from the date of termination. In the event that the termination occurs within 12 months of a "change in control," as defined in the agreements, the severance for the other executives consists of a lump sum payment equal to 18 months of base salary at the then-current rate, the payment of health insurance premiums for 12 months, plus a payment equal to the executive's cash bonus in the previous year. In addition, all outstanding unvested stock awards will vest immediately. The maximum payments due under these employment agreements would have been $3.6 million if each such officer was terminated at March 31, 2015.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are subject to interest rate risk. Our investment portfolio is maintained in accordance with our investment policy which defines allowable investments, specifies credit quality standards and limits the credit exposure of any single issuer. Our investment portfolio consists of cash equivalents, both restricted and non-restricted, marketable securities and long-term investments. The average maturity of our investments, excluding our auction rate securities, is approximately four months. Our investments are classified as available-for-sale securities.

To assess our interest rate risk, we performed a sensitivity analysis projecting an ending fair value of our cash equivalents and current marketable securities using the following assumptions: a three month average maturity and a 150-basis-point increase in interest rates. This pro forma fair value would have been $0.2 million lower than the reported fair value of our investments at March 31, 2015.

Our investment securities consist of auction rate securities, corporate debt securities and government agency securities. As of March 31, 2015, our long-term investments included a (at par value) $2.5 million auction rate security secured by municipal bonds. At March 31, 2015, the auction rate security we held maintained a Standard and Poor's credit rating of A-. The auction rate security is a debt instrument with a long-term maturity and with an interest rate that is reset in short intervals through auctions. The conditions in the global credit markets have prevented some investors from liquidating their holdings of auction rate securities because the amount of securities submitted for sale has exceeded the amount of purchase orders for such securities. If there is insufficient demand for the securities at the time of an auction, the auction may not be completed and the interest rates may be reset to predetermined higher rates. When auctions for these securities fail, the investments may not be readily convertible to cash until a future auction of these investments is successful or they are redeemed or mature.

Since February 2008, there has been insufficient demand at auction for our auction rate security held at March 31, 2015. As a result, this security is currently not liquid, and we could be required to hold it until it is redeemed by the issuer or to maturity. As of March 31, 2015, we had recognized $0.5 million of losses related to the auction rate security by adjusting its carrying value. The market value of the security has partially recovered from the lows that created the losses. As of March 31, 2015, we had recorded cumulative unrealized gains of $0.2 million. Any future decline in market value may result in additional losses being recognized.

The valuation of our auction rate security is subject to uncertainties that are difficult to predict. The fair value of the security is estimated utilizing a discounted cash flow analysis or other type of valuation model as of March 31, 2015. The key drivers of the valuation model include the expected term, collateralization underlying the security investment, the creditworthiness of the counterparty, the timing of expected future cash flows, discount rates, and the expected holding period. This security was also compared, when possible, to other observable market data for securities with similar characteristics.

In the event we need to access the funds that are not currently liquid, we will not be able to do so without the possible loss of principal, until a future auction for these investments is successful or they are redeemed by the issuer or they mature. If we are unable to sell these securities in the market or they are not redeemed, then we may be required to hold them until 2038 when they mature. We do not anticipate a need to access these funds for operational purposes for the foreseeable future. We will continue to monitor and evaluate these investments on an ongoing basis for impairment. Based on our ability to access our cash and other short-term investments, our expected operating cash flows, and our other sources of cash, we do not anticipate that the potential illiquidity of these investments will affect our ability to execute our current business plan.

ITEM 4. CONTROLS AND PROCEDURES

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the design and operation of our disclosure controls and procedures, as such term is defined in Rule 13a-15(e) promulgated under the Exchange Act as of the end of the period covered by this Report. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective and were operating at a reasonable assurance level as of March 31, 2015.

Changes in Internal Control over Financial Reporting

Management has determined that there were no significant changes in our internal control over financial reporting that occurred during the three months ended March 31, 2015, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

In late October and early November 2013, following our announcement of the results of our Phase 3 trial of Allovectin® and the subsequent decline of the price of our common stock, two putative securities class action complaints were filed in the U.S. District Court for the Southern District of California against us and certain of our current and former officers. On February 26, 2014, the two cases were consolidated into one action and a lead plaintiff and lead counsel were appointed. On May 12, 2014, the lead plaintiff filed a first amended consolidated complaint alleging that the defendants violated Section 10(b) and 20(a) of the Securities Exchange Act of 1934 by making materially false and misleading statements regarding our business prospects and the prospects for Allovectin®, thereby artificially inflating the price of our common stock. On June 9, 2014, the defendants filed a motion to dismiss the first amended complaint and a motion to strike certain allegations in the amended complaint. On March 9, 2015, the Court granted defendants' motion to dismiss the first amended complaint and terminated as moot defendants' motion to strike. Lead plaintiff was granted leave to amend his first amended complaint on or before March 25, 2015. Lead plaintiff chose not to amend his complaint and instead stipulated to an entry of judgment. On April 28, 2015, the Court entered final judgment dismissing the action.

ITEM 1A. RISK FACTORS

You should consider carefully the risks described below, together with all of the other information included in this Report, and in our other filings with the SEC, before deciding whether to invest in or continue to hold our common stock. The risks described below are all material risks currently known, expected or reasonably foreseeable by us. If any of these risks actually occur, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment.

The risk factors set forth below with an asterisk (*) next to the title are new risk factors or risk factors containing changes, including any material changes, from the risk factors previously disclosed in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2014, as filed with the SEC.

None of our independently developed product candidates has been approved for sale, and we have a limited number of independently developed product candidates in clinical trials. If we do not develop commercially successful products, we may be forced to curtail or cease operations.

All of our independently developed product candidates are either in research or development. We must conduct a substantial amount of additional research and development before any U.S. or foreign regulatory authority will approve any of our product candidates. Limited data exist regarding the efficacy of DNA vaccines or therapeutics compared with conventional vaccines or therapeutics. Results of our research and development activities may indicate that our product candidates are unsafe or ineffective. In this case, we may stop development and regulatory authorities will not approve them. For example, in 2013 we ceased development of Allovectin®, an investigational intratumoral cancer immunotherapy, following negative results from a Phase 3 trial.

We have an allowed IND for our CyMVectin™ vaccine candidate. However, we may not conduct Phase 1 CyMVectin™ vaccine trials, and future trials, if any, may not demonstrate sufficient efficacy to support further product development. Because we have a limited number of independent clinical-stage product candidates, if we experience a significant delay, set-back or failure in the development of any of our product candidates, it could have a material adverse impact on our business prospects.

Additionally, we are in early stages of development with other product candidates. These product candidates will require significant costs to advance through the development stages. If such product candidates are advanced through clinical trials, the results of such trials may not support approval by the FDA or comparable foreign agencies. Even if approved, our products may not be commercially successful, particularly if they do not gain market acceptance among physicians, patients, healthcare payers and relevant medical communities. If we fail to develop and commercialize our products, we may be forced to curtail or cease operations.

Our clinical trials or those of our partners may fail to demonstrate adequately the safety and efficacy of any of our product candidates, which would prevent or delay regulatory approval and commercialization.

Before obtaining regulatory approvals for the commercial sale of our product candidates, we must demonstrate through lengthy, complex and expensive preclinical testing and clinical trials that our product candidates are both safe and effective for use in each target indication. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. There is typically an extremely high rate of attrition from the failure of product candidates proceeding through clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy profile despite having progressed through preclinical studies and initial clinical trials. We and our licensees have in the past suffered significant setbacks in advanced clinical trials due to lack of efficacy, notwithstanding promising results in earlier trials. For example, in 2013 we ceased development of Allovectin®, an investigational intratumoral cancer immunotherapy, following negative results from a Phase 3 trial. Most product candidates that commence clinical trials are never approved as products.

There are a number of factors that could cause a clinical study to fail or be delayed, including:

- the clinical study may produce negative or inconclusive results;
- regulators, monitoring boards or other entities may require that we hold, suspend or terminate clinical research for safety, ethical or regulatory reasons, including adverse events reported during the trial;
- we may decide, or regulators may require us, to conduct additional preclinical testing or clinical studies;
- enrollment in our clinical studies may be slower than we anticipate;
- the cost of our clinical studies may be greater than we anticipate; and
- the supply or quality of our product candidates or other materials necessary to conduct our clinical studies may be insufficient, inadequate or delayed.

In addition, even if clinical trials are successfully completed, we cannot guarantee that the FDA or foreign regulatory authorities will interpret the results as we do, and more trials could be required before we submit our product candidates for approval. To the extent that the results of the trials are not satisfactory to the FDA or foreign regulatory authorities for support of a marketing application, approval of our product candidates may be significantly delayed, or we may be required to expend significant additional resources, which may not be available to us, to conduct additional trials in support of potential approval of our product candidates.

(*) We are dependent on our out-license agreements with Astellas to further develop and commercialize ASP0113 The failure to maintain these agreements, or the failure of Astellas to perform its obligations under these agreements, could negatively impact our business.

Pursuant to the terms of our out-license agreements with Astellas, we granted to Astellas exclusive worldwide rights to develop and commercialize certain products, including ASP0113 but excluding CyMVectin™, for the control and prevention of CMV infection in immunocompromised patients, including transplant recipients and transplant donors, and pursuant to the terms of our supply and services agreement with Astellas, we are obligated to perform certain development activities and supply Astellas with its product requirements for development and initial commercialization activities. Consequently, our ability to generate any revenues from ASP0113 depends on Astellas' ability to develop, obtain regulatory approvals for and successfully commercialize ASP0113. We have limited control over the amount and timing of resources that Astellas will dedicate to these efforts.

We are subject to a number of other risks associated with our dependence on our out-license agreements with Astellas, including:

- Astellas may not comply with applicable regulatory guidelines with respect to developing or commercializing ASP0113, which could adversely impact sales or future development of ASP0113;
- We and Astellas could disagree as to future development plans and Astellas may delay, fail to commence or stop future clinical trials or other development;

- There may be disputes between us and Astellas, including disagreements regarding the license agreements, that may result in (1) the delay of or failure to achieve developmental, regulatory and commercial objectives that would result in milestone or royalty payments, (2) the delay or termination of any future development or commercialization of ASP0113, and/or (3) costly litigation or arbitration that diverts our management's attention and resources;
- Astellas may not provide us with timely and accurate information regarding development, sales and marketing activities or supply forecasts, which could adversely impact our ability to comply with our service and supply obligations to Astellas and manage our own inventory of ASP0113, as well as our ability to generate accurate financial forecasts;
- Business combinations or significant changes in Astellas' business strategy may adversely affect Astellas' ability or willingness to perform its obligations under our license agreements;
- Astellas may not properly defend our intellectual property rights, or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property rights or expose us to potential litigation;
- The royalties we are eligible to receive from Astellas may be reduced based upon Astellas' and our ability to maintain or defend our intellectual property rights and the presence of generic competitors;
- Limitations on our or an acquiror's ability to maintain or pursue development or commercialization of products that are competitive with ASP0113 could deter a potential acquisition of us that our stockholders may otherwise view as beneficial; and
- If Astellas is unsuccessful in developing, obtaining regulatory approvals for or commercializing ASP0113, we may not receive any additional milestone or royalty payments under the license agreements and our business prospects and financial results may be materially harmed.

The out-license agreements and supply and services agreement are subject to early termination, including through Astellas' right to terminate upon advance notice to us if Astellas reasonably determines that further development and/or commercialization will not be beneficial for Astellas. If the agreements are terminated early, we may not be able to find another collaborator for the commercialization and further development of ASP0113 on acceptable terms, or at all, and we may be unable to pursue continued development or commercialization of ASP0113 on our own.

(*) Our revenues partially depend on the development and commercialization of products in collaboration with others to whom we have licensed our technologies. If our other collaborators or licensees do not successfully develop and commercialize products covered by these arrangements, or if we are unable to find collaborators or licensees in the future, we may not be able to derive revenues from these arrangements, we may lose opportunities to validate our DNA delivery technologies, or we may be forced to curtail our development and commercialization efforts in these areas.

In addition to our out-license agreements with Astellas, we have licensed, and may continue to license, our technologies to corporate collaborators and licensees for the research, development and commercialization of specified product candidates. Our revenues partially depend upon the ability of these collaborators and licensees to successfully develop and commercialize products covered by these arrangements. In addition, our licensee Astellas has product candidates in advanced stages of clinical development, for which we believe regulatory approval would provide important further validation of our DNA delivery technologies. The development and commercialization efforts of our collaborators and licensees are subject to the same risks and uncertainties described above with respect to our independently developed product candidates.

Some collaborators or licensees may not succeed in their product development efforts. It is possible that our collaborators or licensees may be unable to obtain regulatory approval of product candidates using our technologies or successfully market and commercialize any such products for which regulatory approval is obtained. Other collaborators or licensees may not devote sufficient time or resources to the programs covered by these arrangements, and we may have limited or no control over the time or resources allocated by these collaborators or licensees to these programs. The occurrence of any of these events may cause us to derive little or no revenue from these arrangements, lose opportunities to validate our DNA delivery technologies, or force us to curtail or cease our development and commercialization efforts in these areas.

Our collaborators and licensees may breach or terminate their agreements with us, including some that may terminate their agreements without cause at any time subject to certain prior written notice requirements, and we may be unsuccessful in entering into and maintaining other collaborative arrangements for the development and commercialization of products using our technologies. If we are unable to maintain existing collaboration arrangements or enter into new ones, our ability to generate licensing, milestone or royalty revenues would be materially impaired.

(*)Some of our independent product candidates and some of those under development by our sublicensees incorporate technologies we have licensed from others. If we are unable to retain rights to use these technologies, we or our sublicensees may not be able to market products incorporating these technologies on a commercially feasible basis, if at all.

We have licensed certain technologies from corporate collaborators and research institutions, and sublicensed certain of such technologies to others, for use in the research, development and commercialization of product candidates. Our product development efforts and those of our sublicensees partially depend upon continued access to these technologies. For example, we or our licensors may breach or terminate our agreements, or disagree on interpretations of those agreements, which could prevent continued access to these technologies. If we were unable to resolve such matters on satisfactory terms, or at all, we or our sublicensees may be unable to develop and commercialize our products, and we may be forced to curtail or cease operations.

We licensed rights to patents and know-how for ASP2397 from Astellas pursuant to an in-license agreement that contains obligations to pay Astellas regulatory and sales milestone payments relating to ASP2397, as well as royalties on net sales of ASP2397. If we fail to make a required payment to Astellas or otherwise materially breach our in-license agreement with Astellas and do not cure the failure within the required time period, Astellas may be able to terminate the license to the ASP2397 patents and know-how, which would have a material adverse effect on our business, financial condition and results of operations.

(*)We have a history of net losses. We expect to continue to incur net losses and we may not achieve or maintain profitability.

To date, we have not sold, or received approval to sell, any pharmaceutical products. We do not expect to sell any pharmaceutical products for at least the next several years. Our net losses were approximately $16.5 million, $31.2 million and $22.9 million for the years ended December 31, 2014, 2013 and 2012, respectively. As of March 31, 2015, we had incurred cumulative net losses totaling approximately $399.5 million. Moreover, we expect that our net losses will continue and may increase for the foreseeable future. We may not be able to achieve projected results if we generate lower revenues or receive lower investment income than expected, or we incur greater expenses than expected, or all of the above. We may never generate sufficient product revenue to become profitable. We also expect to have quarter-to-quarter fluctuations in revenues, expenses, and losses, some of which could be significant.

(*)We may need additional capital in the future. If additional capital is not available, we may have to curtail or cease operations.

We may need to raise more money to continue the research and development necessary to bring our products to market and to establish marketing and additional manufacturing capabilities. We may seek additional funds through public and private stock offerings, government contracts and grants, arrangements with corporate collaborators, borrowings under lines of credit or other sources. We currently have on file a shelf registration statement that allows us to raise up to an aggregate of $145.9 million from the sale of common stock, preferred stock, debt securities and/or warrants. However, we may not be able to raise additional funds on favorable terms, or at all. Conditions in the credit markets and the financial services industry may make equity and debt financing more difficult to obtain, and may negatively impact our ability to complete financing transactions. To the extent that we raise additional funds by issuing equity securities, our stockholders may experience significant dilution. Any debt financing, if available, may involve restrictive covenants, such as limitations on our ability to incur additional indebtedness and other operating restrictions that could adversely impact our ability to conduct our business.

In November 2012, we entered into a Sales Agreement with Stifel, under which we may issue and sell up to $50.0 million of our common stock from time to time. In April 2014, we entered into an At-the-Market Issuance Sales Agreement, or ATM Agreement with Meyers Associates, L.P. (doing business as Brinson Patrick, a division of Meyers Associates, L.P.), or Brinson Patrick, under which we may issue and sell up to $25.0 million of our common stock from time to time. As of

March 31, 2015 there was $20.9 million of our common stock available to be sold under the Brinson Patrick ATM Agreement. However, neither Stifel nor Brinson Patrick are obligated to sell any shares that we may request to be sold, and any attempt to sell shares under these facilities, if made, may not be successful or result in sufficient proceeds to meet our capital requirements.

If we are unable to obtain additional funds, we may have to scale back our development of new products, reduce our workforce or license to others products or technologies that we otherwise would seek to commercialize ourselves. The amount of money we may need would depend on many factors, including:

- The progress of our research and development programs;
- The scope and results of our preclinical studies and clinical trials;
- The amount of our legal expenses, including those expenses associated with the shareholder class action filed against us and certain of our current and former officers and any settlement or damages payments associated with litigation; and
- The time and costs involved in: obtaining necessary regulatory approvals; filing, prosecuting and enforcing patent claims; scaling up our manufacturing capabilities; and the commercial arrangements we may establish.

The regulatory approval process is expensive, time consuming and uncertain, which may prevent us and our collaborators and licensees from obtaining required approvals for the commercialization of our products.

Our product candidates under development and those of our collaborators and licensees, including Astellas, are subject to extensive and rigorous regulations by numerous governmental authorities in the United States and other countries. The regulatory approval process takes many years and will require us to expend substantial resources.

U.S. or foreign regulations evolve and could prevent or delay regulatory approval of our products or limit our and our collaborators and licensees' ability to develop and commercialize our products. Delays could:

- Impose costly procedures on our activities and those of our collaborators and licensees;
- Delay or prevent our receipt of developmental or commercial milestones from our collaborators and licensees;
- Diminish any competitive advantages that we or our products attain; or
- Otherwise negatively affect our results of operations and cash flows.

We have no experience in filing a Biologics License Application, or BLA, with the FDA. Because a BLA must be submitted to and approved by the FDA before any of our product candidates may be commercialized, our lack of experience may impede our ability to obtain FDA approval in a timely manner, if at all, which in turn would delay or prevent us from commercializing those products. Similarly, our lack of experience with respect to obtaining regulatory approvals in countries other than the United States may impede our ability to commercialize our products in those countries.

We believe that the FDA and comparable foreign regulatory bodies will regulate separately each product containing a particular gene depending on its intended use. Presently, to commercialize any product we and our collaborators and licensees must file a regulatory application for each proposed use. We and our collaborators and licensees must conduct clinical studies to demonstrate the safety and efficacy of the product necessary to obtain FDA or foreign regulatory authority approval. The results obtained so far in our clinical trials and those of our collaborators and licensees may not be replicated in ongoing or future trials, or the results may be subject to varying interpretation on whether they are sufficient to support approval for commercialization. This may prevent any of our product candidates from receiving approval for commercial sale.

We anticipate that we would commercially manufacture any of our product candidates that are approved for marketing. Therefore, our manufacturing facilities will have to be approved by the FDA pursuant to inspections conducted after we submit an application for regulatory approval. If we cannot successfully manufacture material that conforms to applicable specifications and the strict regulatory requirements of the FDA, we will not be able to secure and/or maintain regulatory approval for our manufacturing facilities. If the FDA does not approve our facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, our ability to develop, obtain regulatory approval for or market our product candidates will be adversely affected.

If any of our product candidates receive regulatory approval, the FDA or other foreign regulatory agencies may still impose significant restrictions on the indicated uses or marketing of our product candidates or impose ongoing requirements for potentially costly post-approval studies. In addition, regulatory agencies subject a product, its manufacturer and the manufacturer's facilities to continual review and periodic inspections. If a regulatory agency discovers previously unknown problems with a product or a product class, including adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions on that product or product class, our collaborators and licensees or us, including requiring withdrawal of a product from the market. Our product candidates will also be subject to ongoing FDA and other foreign regulatory agency requirements for the labeling, packaging, storage, advertising, promotion, record-keeping and submission of safety and other post-market information on the product. If we or our collaborators and licensees fail to maintain regulatory compliance after receiving marketing approval, we or our collaborators and licensees may be unable to market our products and our business could suffer.

Adverse events or the perception of adverse events in the field of gene therapy, or with respect to our product candidates, may negatively impact regulatory approval or public perception of our products.

The commercial success of some of our product candidates will depend in part on public acceptance of the use of gene therapy for preventing or treating human diseases. Serious adverse events, including patient deaths, have occurred in clinical trials utilizing viral delivery systems to deliver therapeutic genes to the patient's targeted cells. Although none of our current products or studies utilize viral delivery systems, these adverse events, as well as any other adverse events in the field of gene therapy that may occur in the future, may negatively influence public perception of gene therapy in general. If public perception is influenced by claims that gene therapy is unsafe, our product candidates may not be accepted by the general public or the medical community.

Future adverse events in gene therapy or the biotechnology industry could also result in greater governmental regulation, stricter labeling requirements and potential regulatory delays in the testing or approval of our potential products. Any increased scrutiny could delay or increase the costs of our product development efforts or clinical trials. In addition, any adverse events that may occur in our clinical trials and any resulting publicity may cause regulatory delays or otherwise affect our product development efforts or clinical trials.

Some of our potential products may be administered to patients who are suffering from, or are vulnerable to, serious diseases or other conditions which can themselves be life-threatening and often result in the death of the patient. Patient deaths in our clinical trials, even if caused by pre-existing diseases or conditions, could negatively affect the perception of our product candidates. In addition, although we do not believe our vaccine candidates could cause the diseases they are designed to protect against, a temporal relationship between vaccination and disease onset could be perceived as causal. Some of our products are designed to stimulate immune responses, and those responses, if particularly strong or uncontrolled, could result in local or systemic adverse events, including latent adverse events.

(*)Our patents and proprietary rights may not provide us with any benefit and the patents of others may prevent us from commercializing our products.

As of March 31, 2015, we were the assignee or co-assignee of 63 issued U.S. and foreign patents. We maintain our issued patents by paying maintenance fees to the patent office in each country when due. Where appropriate, we participate in legal proceedings to vigorously defend against the revocation or withdrawal of our patents. The scope and nature of these proceedings generally differ depending on the country in which they are initiated. If we are not successful in defending our patents, we may lose all or part of our proprietary rights related to those patents in these geographic regions.

As of March 31, 2015, we were also prosecuting 19 pending patent applications in the United States and in foreign countries that cover various aspects of our proprietary technologies, not including patent applications for which we are a co-assignee and that are being prosecuted by our partners.

We may not receive any patents from our current patent applications. Issued patents provide exclusivity for only a limited time period, after which they no longer serve to protect proprietary technologies or to provide any commercial advantage. Moreover, if patents are issued to us, governmental authorities may not allow claims sufficient to protect our technologies and products. Others may also challenge or seek to circumvent or invalidate our patents. In that event, the rights granted under our patents may be inadequate to protect our proprietary technologies or to provide any commercial advantage.

In addition, the Leahy-Smith America Invents Act, or AIA, was signed into law on September 16, 2011, and significantly changed certain aspects of the United States patent laws. These changes include, but are not limited to, authorizing fee setting authority to the United States Patent Office, transitioning the United States to a first-inventor-to-file

patent system, expanding the scope of prior art that may be utilized against a pending patent application, and adding post-patent grant proceedings before the Patent Office in which third parties may challenge the validity of the granted patent. It is not clear, what, if any, impact the AIA will have on the cost of prosecuting our patent applications, our ability to obtain patents based on our patent applications, and our ability to enforce or defend our issued or granted United States patents. An inability to obtain, enforce, and defend patents covering our proprietary technologies would materially and adversely affect our business prospects and financial condition.

Some components of our gene-based product candidates are, or may become, patented by others. As a result, we may be required to obtain licenses to conduct research, to manufacture, or to market such products. Licenses may not be available on commercially reasonable terms, or at all, which may impede our ability to commercialize our products.

The legal proceedings to obtain and defend patents, and litigation of third-party claims of intellectual property infringement, could require us to spend money and could impair our operations.

Our and our collaborators', including Astellas', success will depend in part on our, or our collaborators', ability to obtain patent protection for our products and processes, both in the United States and in other countries. The patent positions of biotechnology and pharmaceutical companies, however, can be highly uncertain and involve complex legal and factual questions. Therefore, it is difficult to predict the breadth of claims allowed in the biotechnology and pharmaceutical fields.

We also rely on confidentiality agreements with our corporate collaborators, employees, consultants and certain contractors to protect our proprietary technologies. However, these agreements may be breached and we may not have adequate remedies for such breaches. In addition, our trade secrets may otherwise become known or independently discovered by our competitors.

Protecting intellectual property rights can be very expensive. Litigation may be necessary to enforce patents issued to us or to determine the scope and validity of third-party proprietary rights. If we or, as applicable, our commercialization partners, including Astellas pursuant to its first right to enforce patents licensed to it under our license agreements, choose to go to court to stop someone else from using our inventions, that individual or company has the right to ask the court to rule that the underlying patents are invalid and/or should not be enforced against that third party. Moreover, if a competitor were to file a patent application claiming technology also invented by us or our collaborators or licensees, we would have to participate in an interference proceeding before the U.S. Patent and Trademark Office to determine the priority of the invention. We or our collaborators or licensees may be drawn into interferences with third parties or may have to provoke interferences ourselves to unblock third-party patent rights to allow us or our collaborators or licensees to commercialize products based on our technologies. Litigation could result in substantial costs and the diversion of management's efforts regardless of the results of the litigation. An unfavorable result in litigation could subject us to significant liabilities to third parties, require disputed rights to be licensed or require us to cease using some technologies.

Our products and processes may infringe, or be found to infringe, patents not owned or controlled by us. Patents held by others may require us to alter our products or processes, obtain licenses, or stop activities. If relevant claims of third-party patents are upheld as valid and enforceable, we or our collaborators or licensees could be prevented from practicing the subject matter claimed in the patents, or may be required to obtain licenses or redesign our products or processes to avoid infringement. In addition, we or our collaborators or licensees could be required to pay money damages. A number of genetic sequences or proteins encoded by genetic sequences that we are investigating are, or may become, patented by others. As a result, we or our collaborators or licensees may have to obtain licenses to test, use or market these products. Our business will suffer if we or our collaborators or licensees are not able to obtain licenses at all or on terms commercially reasonable to us or them and we or they are not able to redesign our products or processes to avoid infringement.

We have incurred costs in several legal proceedings involving our intellectual property rights in Europe, Japan and Canada. We may continue to incur costs to defend and prosecute patents and patent applications in these and other regions.

Competition and technological change may make our product candidates and technologies less attractive or obsolete.

We compete with companies, including major pharmaceutical and biotechnology firms that are pursuing other forms of treatment or prevention for diseases that we target. We also may experience competition from companies that have acquired or may acquire technologies from universities and other research institutions. As these companies develop their technologies, they may develop proprietary positions which may prevent us from successfully commercializing products.

Some of our competitors are established companies with greater financial and other resources than we have. Other companies may succeed in developing products and obtaining regulatory approval from the FDA or comparable foreign

agencies faster than we do, or in developing products that are more effective than ours. Research and development by others may seek to render our technologies or products obsolete or noncompetitive or result in treatments or cures superior to any therapeutics developed by us.

The internet site ClinicalTrials.gov provides public access to information on clinical trials and their results for a wide range of diseases and conditions. Future disclosures of such confidential commercial information may result in loss of advantage of competitive secrets.

If we lose our key personnel or are unable to attract and retain additional personnel, we may not be able to achieve our business objectives.

We are highly dependent on our principal scientific, manufacturing, clinical, regulatory and management personnel, including Vijay B. Samant, our President and Chief Executive Officer. The loss of the services of these individuals might significantly delay or prevent the achievement of our objectives. We do not maintain "key person" life insurance on any of our personnel. We depend on our continued ability to attract, retain and motivate highly qualified management and scientific personnel. We face competition for qualified individuals from other companies, academic institutions, government entities and other organizations in attracting and retaining personnel. To pursue our product development plans, we may need to hire additional management personnel and additional scientific personnel to perform research and development, as well as additional personnel with expertise in clinical trials, government regulation and manufacturing. However, due to the reasons noted above, we may not be successful in hiring or retaining qualified personnel and therefore we may not be able to achieve our business objectives.

We have limited experience in manufacturing our product candidates in commercial quantities. We may not be able to comply with applicable manufacturing regulations or produce sufficient product for contract or commercial purposes.

The commercial manufacturing of vaccines and other biological products is a time-consuming and complex process, which must be performed in compliance with the FDA's current Good Manufacturing Practices, or cGMP, regulations. We may not be able to comply with the cGMP regulations, and we have in the past encountered and may in the future encounter delays, disruptions or quality control problems in our manufacturing process. In addition, we may need to complete the installation and validation of additional large-scale fermentation and related purification equipment to produce the quantities of product expected to be required for commercial purposes. We have limited experience in manufacturing at this scale. We will also depend on third parties for any commercial scale filling of product vials. Noncompliance with the cGMP regulations, the inability to complete the installation or validation of additional large-scale equipment, or other problems with our manufacturing process may limit or delay the development or commercialization of our product candidates, and cause us to breach our contract manufacturing service arrangements or our obligations under our agreements with collaborators, including our obligations under our supply and services agreement with Astellas.

We currently depend on third parties to conduct our clinical trials and may initially depend on third parties to manufacture our product candidates commercially.

We rely on third parties, including clinical research organizations, medical institutions and contract laboratories, to perform critical services for us in connection with our clinical trials. These third parties are responsible for many aspects of the trials, including finding and enrolling subjects for testing and administering the trials. Although we rely on these third parties to conduct our clinical trials, we are responsible for ensuring that each of our clinical trials is conducted in accordance with its protocol and applicable regulations, including good clinical practices established by the FDA and foreign regulatory authorities, which govern the conduct, monitoring, recording and reporting the results of clinical trials to ensure that the data and results are scientifically credible and accurate, and that trial subjects are adequately informed of the potential risks associated with participating in clinical trials. Our reliance on third parties does not relieve us of the responsibility to ensure these requirements are met. These third parties may not comply with all regulatory and contractual requirements or may not otherwise perform their services in a timely or acceptable manner, and we may need to enter into new arrangements with alternative third parties and our clinical trials may be extended, delayed or terminated. In addition, if such third parties fail to perform their obligations in compliance with our clinical trial protocols or applicable good clinical practice regulations, our clinical trials may not meet regulatory requirements or may need to be repeated, and we may not be able to obtain regulatory approval for or commercialize the product candidate being tested in such trials. These risks also apply to the development activities of our collaborators and licensees, and we do not control our collaborators' and licensees' research and development, clinical trials or regulatory activities.

We may also initially depend on collaborators, licensees or other third parties to manufacture our product candidates in commercial quantities. There are a limited number of third parties that could manufacture our product candidates. We may

be unable to enter into any arrangement for the commercial manufacture of our product candidates, and any arrangement we secure may not meet our requirements for manufacturing quality or quantity. Our dependence on third parties for the commercial manufacture of our product candidates may also reduce our profit margins and our ability to develop and deliver products in a timely manner.

We have no marketing or sales experience, and if we are unable to develop our own sales and marketing capability, we may not be successful in commercializing our products.

Our current strategy is to market our proprietary products directly in the United States, but we currently do not possess pharmaceutical marketing or sales capabilities. To market and sell our proprietary products, we will need to develop a sales force and a marketing group with relevant pharmaceutical industry experience, or make appropriate arrangements with strategic partners to market and sell these products. Developing a marketing and sales force is expensive and time-consuming and could delay any product launch. If we are unable to successfully employ qualified marketing and sales personnel or develop other sales and marketing capabilities, we may not be able to generate sufficient product revenue to become profitable.

Healthcare reform and restrictions on reimbursement may limit our returns on potential products.

Our ability to earn sufficient returns on our products will depend in part on how much, if any, reimbursement for our products and related treatments will be available from:

- Government health administration authorities;
- Government agencies procuring biodefense products for military or public use, including some for which we may become a sole-source vendor;
- Private health coverage insurers;
- Managed care organizations; and
- Other organizations.

If we fail to obtain appropriate reimbursement, we could be prevented from successfully commercializing our potential products. There are ongoing efforts by governmental and third-party payers to contain or reduce the costs of healthcare through various reform measures. In the United States, the Federal government passed comprehensive healthcare reform legislation in 2010. Many of the details regarding the implementation of this legislation are yet to be determined and we currently cannot predict whether or to what extent such implementation or adoption of reforms may impair our business.

Additionally, third-party payers are increasingly challenging the price of medical products and services. If purchasers or users of our products are not able to obtain adequate reimbursement for the cost of using our products, they may forego or reduce their use. Significant uncertainty exists as to the reimbursement status of newly approved healthcare products, and whether adequate third-party coverage will be available.

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

Our research and development processes involve the controlled storage, use and disposal of hazardous materials and biological materials. Our hazardous materials include certain compressed gases, flammable liquids, acids and bases, and other toxic compounds. We are subject to federal, state and local regulations governing the use, manufacture, storage, handling and disposal of materials and waste products. Although we believe that our safety procedures for handling and disposing of these hazardous materials comply with the standards prescribed by law and regulation, the risk of accidental contamination or injury from hazardous materials cannot be completely eliminated. In the event of an accident, we could be held liable for any damages that result. We could incur significant costs to comply with current or future environmental laws and regulations.

We may have significant product liability exposure.

We face an inherent business risk of exposure to product liability and other claims in the event that our technologies or products are alleged to have caused harm. We also have potential liability for products manufactured by us on a contract basis for third parties. Although we currently maintain product liability insurance in the amount of $10 million in the aggregate plus additional coverage specific to the foreign countries where our clinical trials are being conducted, this

insurance coverage may not be sufficient, and we may not be able to obtain sufficient coverage in the future at a reasonable cost. Our inability to obtain product liability insurance at an acceptable cost or to otherwise protect against potential product liability claims could prevent or inhibit the commercialization of any products developed by us or our collaborators, or our ability to manufacture products for third parties. If we are sued for any injury caused by our technologies or products, or by third-party products that we manufacture, our liability could exceed our insurance coverage and total assets.

(*)Negative conditions in the global credit markets may impair the liquidity of a portion of our investment portfolio.

Our investment securities consist of auction rate securities, corporate debt securities and government agency securities. As of March 31, 2015, our long-term investments included a (at par value) $2.5 million auction rate security secured by municipal bonds. At March 31, 2015, the auction rate security we held maintained a Standard and Poor's credit rating of A-. Our auction rate security is a debt instrument with a long-term maturity and with an interest rate that is reset in short intervals through auctions. The conditions in the global credit markets have prevented some investors from liquidating their holdings of auction rate securities because the amount of securities submitted for sale has exceeded the amount of purchase orders for such securities. If there is insufficient demand for the securities at the time of an auction, the auction may not be completed and the interest rates may be reset to predetermined higher rates. When auctions for these securities fail, the investments may not be readily convertible to cash until a future auction of these investments is successful or they are redeemed or mature.

Since February 2008, there has been insufficient demand at auction for our auction rate security held at March 31, 2015. As a result, this security is currently not liquid, and we could be required to hold it until it is redeemed by the issuer or to maturity. As of March 31, 2015, we had recognized $0.5 million of losses related to the auction rate security. The market value of the security has partially recovered from the lows that created the losses. As of March 31, 2015, we had recorded cumulative unrealized gains of $0.2 million. Any future decline in market value may result in additional losses being recognized.

In the event we need to access the funds that are in an illiquid state, we will not be able to do so without the possible loss of principal, until a future auction for this investment is successful or it is redeemed by the issuer or it matures. If we are unable to sell this security in the market or it is not redeemed, then we may be required to hold it to maturity.

(*)Our stock price could continue to be highly volatile and you may not be able to resell your shares at or above the price you pay for them.

The market price of our common stock, like that of many other life sciences companies, has been and is likely to continue to be highly volatile. From January 1, 2012, to March 31, 2015, our stock price has ranged from $0.85 to $4.74. The following factors, among others, could have a significant impact on the market price of our common stock:

- The results of our preclinical studies and clinical trials or announcements regarding our plans for future studies or trials, or those of our collaborators, licensees or competitors;
- Evidence or lack of evidence of the safety or efficacy of our potential products or those of our collaborators, licensees or competitors;
- The success of our collaborators and licensees, including Astellas, in the development or commercialization of our product candidates;
- The announcement by us or our collaborators, licensees or competitors of technological innovations or new products;
- Developments concerning our patent or other proprietary rights or those of our collaborators, licensees or competitors, including litigation and challenges to our proprietary rights;
- Other developments with our collaborators or licensees, including our entry into new collaborative or licensing arrangements;
- Geopolitical developments, natural or man-made disease threats, or other events beyond our control;
- U.S. and foreign governmental regulatory actions;

- Changes or announcements in reimbursement policies;
- Period-to-period fluctuations in our operating results;
- Market conditions for life science stocks in general;
- Changes in the collective short interest in our stock;
- Changes in estimates of our performance by securities analysts; and
- Our cash balances, need for additional capital, and access to capital.

(*)We and certain of our current and former officers have been named as defendants in two securities class action lawsuits and we are at risk of future securities class action litigation due to our past and expected stock price volatility.

In the past, stockholders have brought securities class action litigation against a company following a decline in the market price of its securities. This risk is especially acute for us because life science companies have experienced greater than average stock price volatility in recent years and, as a result, have been subject to, on average, a greater number of securities class action claims than companies in other industries. Even if such claims are not successful, any litigation could result in substantial costs and divert our management's attention and resources, which could have a material adverse effect on our business, operating results or financial condition.

(*)If we fail to continue to meet all applicable Nasdaq Global Market requirements, Nasdaq may delist our common stock, which could have an adverse impact on the liquidity and market price of our common stock.

Our common stock is currently listed on The Nasdaq Global Market, which has qualitative and quantitative listing criteria. If we are unable to meet any of the Nasdaq listing requirements in the future, including, for example, if the closing bid price for our common stock falls below $1.00 per share for 30 consecutive trading days, Nasdaq could determine to delist our common stock, which could adversely affect the market liquidity of our common stock and the market price of our common stock could decrease. As of April 27, 2015, the closing price of our common stock on the Nasdaq Global Market was $0.96. A delisting of our common stock could also adversely affect our ability to obtain financing for the continuation of our operations and could result in the loss of confidence in our company.

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

Our certificate of incorporation and bylaws include anti-takeover provisions, such as a classified board of directors, a prohibition on stockholder actions by written consent, the authority of our board of directors to issue preferred stock without stockholder approval, and supermajority voting requirements for specified actions. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits stockholders owning in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years. These provisions may delay or prevent an acquisition of us, even if the acquisition may be considered beneficial by some stockholders. In addition, they may discourage or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management.

The issuance of preferred stock could adversely affect our common stockholders.

We currently have on file a shelf registration statement that allows us to raise up to an aggregate of $145.9 million from the sale of common stock, preferred stock, debt securities and/or warrants and our restated certificate of incorporation authorizes us to issue up to 5,000,000 shares of preferred stock. The issuance of preferred stock could adversely affect the voting power of holders of our common stock, and reduce the likelihood that our common stockholders will receive dividend payments and payments upon liquidation. The issuance of preferred stock could also decrease the market price of our common stock, or have terms and conditions that could discourage a takeover or other transaction that might involve a premium price for our shares or that our stockholders might believe to be in their best interests.

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ITEM 6. EXHIBITS

Exhibit Number	Description of Document
3.1(i)(1)	Restated Certificate of Incorporation.
3.2(ii)(2)	Amended and Restated Bylaws.
3.3(i)(2)	Certificate of Amendment to Restated Certificate of Incorporation.
4.1(1)	Specimen Common Stock Certificate.
10.1*	License Agreement dated March 24, 2015, between the Company and Astellas Pharma Inc.
31.1	Certification of Vijay B. Samant, Chief Executive Officer and acting Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Vijay B. Samant, Chief Executive Officer and acting Chief Financial Officer, 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.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.

(1) Incorporated by reference to the exhibit of the same number filed with the Company's Registration Statement on Form S-3 (No. 33-95812) filed on August 15, 1995.
(2) Incorporated by reference to the exhibit of the same number filed with the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2010.
* Confidential treatment of certain portions of this agreement has been requested and/or received and such portions have been omitted and filed separately with the SEC pursuant to Rule 24b-2 under the Securities Exchange Act of 1934.

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SIGNATURE

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.

Vical Incorporated

Date: May 8, 2015

By: /s/ ANTHONY A. RAMOS
Anthony A. Ramos
VP Finance, Chief Accounting Officer (on behalf of the registrant and as the registrant's Principal Accounting Officer)

Exhibit 10.1

*****Text Omitted and Filed Separately with the Securities and Exchange Commission.**
Confidential Treatment Requested Under
17 C.F.R. Sections 200.80(b)(4) and 240.24b-2

LICENSE AGREEMENT

THIS LICENSE AGREEMENT (the "***Agreement***") is entered into as of March 24, 2015 (the "***Effective Date***") by and between **VICAL INCORPORATED**, a Delaware corporation ("***Vical***"), having an address of 10390 Pacific Center Court, San Diego, California, 92121, USA, and **ASTELLAS PHARMA INC.**, a company organized under the laws of Japan ("***Astellas***"), having an address of 5-1, Nihonbashi-Honcho 2-chome, Chuo-Ku, Tokyo 103-8411, Japan.

RECITALS

WHEREAS, Astellas has developed expertise and owns proprietary rights related to Compound and Products in the Field (each as defined below), as more fully described below;

WHEREAS, Vical is engaged in the research and development of pharmaceutical products; and

WHEREAS, Vical wishes to obtain, and Astellas is willing to grant to Vical, an exclusive license under Astellas Technology (as defined below) to develop and commercialize Products in the Field in the Territory (as defined below), subject to the terms and conditions set forth herein.

AGREEMENT

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

1. DEFINITIONS

1.1 "**Accounting Standards**" shall mean the generally accepted accounting principles of the United States, consistently applied, and shall mean the International Financial Reporting Standards at such time as the International Financial Reporting Standards becomes the generally accepted accounting standard and applicable laws require that Vical use such standards.

1.2 "**Affiliate**" shall mean, with respect to a particular party, a person, corporation, partnership, or other entity that controls, is controlled by or is under common control with such party. For the purposes of this definition, the word "control" (including, with correlative meaning, the terms "controlled by" or "under the common control with") means the actual power, either directly or indirectly through one or more intermediaries, to direct or cause the direction of the management and policies of such entity, whether by the ownership of more than fifty percent (50%) of the voting stock of such entity, or by contract or otherwise.

1.3 "**Astellas Indemnitee**" shall have the meaning provided in Section 11.2.

1.4 "**Astellas Know-How**" shall mean Information not included in the Astellas Patents that Astellas or any of its Affiliates Controls on the Effective Date or during the Term, which Information is necessary or useful for the development, registration, manufacture, use, promotion, distribution, offer for sale, sale, import or export of Compound or Products in the Field. For clarification, in the case of a Combination Product, Astellas Know-How does not

include any Information Controlled by Astellas or any of its Affiliates relating to any therapeutically and/or prophylactically active ingredient in such Combination Product other than the Compound.

1.5 "**Astellas Patents**" shall mean all Patents that Astellas or any of its Affiliates Controls as of the Effective Date or during the Term, which Patents claim the composition of matter of, or any method of making or using, Compound or Products in the Field, including (a) […***…] and […***…] and (b) corresponding foreign Patents. For clarification, in the case of a Combination Product, Astellas Patents do not include any Patents Controlled by Astellas or any of its Affiliates, which Patents relate to any therapeutically and/or prophylactically active ingredient in such Combination Product other than the Compound.

1.6 "**Astellas Technology**" shall mean the Astellas Patents and Astellas Know-How.

1.7 "**Calendar Year**" shall mean each respective period of twelve (12) consecutive months beginning on January 1.

1.8 "**CMC**" shall mean chemistry, manufacturing and controls.

1.9 "**CMO**" shall mean a contract manufacturing organization.

1.10 "**Combination Product**" shall mean any pharmaceutical product that contains the Compound in combination with one or more other therapeutically and/or prophylactically active ingredient(s), whether packaged together or included in a prime-boost regimen or in the same therapeutic formulation, including, in each case, all formulations, line extensions and modes of administration.

1.11 "**Commercially Reasonable Efforts**" shall mean that level of efforts and resources consistent with commercially reasonable practices of a company in the pharmaceutical industry with respect to the research, development or commercialization of a pharmaceutical product at a similar stage of research, development or commercialization, taking into account relevant factors including, without limitation, measures of patent coverage, relative safety and efficacy, product profile, the competitiveness of the marketplace, the proprietary position of such product, the regulatory structure involved, the market potential of such product and other relevant factors, including comparative technical, legal, scientific and/or medical factors, all as measured by the facts and circumstances in effect at the time when the carrying out of such obligations is due.

1.12 "**Competing Entity**" shall have the meaning provided in Section 3.6.

1.13 "**Competitive Compound or Product**" shall have the meaning provided in Section 2.4.

1.14 "**Compound**" shall mean an antifungal compound known as ASP2397 whose chemical structure is described in Exhibit A of a letter provided by Astellas to Vical as of the Effective Date.

1.15 "**Confidential Information**" shall mean all Information and other proprietary scientific, marketing, financial or commercial information or data, which one party or any of its Affiliates has furnished or otherwise made available to the other party or its Affiliates, whether made available orally, in writing, or in electronic form. Confidential Information shall include all such information provided or made available pursuant to the Confidentiality Agreement. All Astellas Technology shall be Confidential Information of Astellas. All Confidential Information shall be subject to Article 8.

1.16 "**Confidentiality Agreement**" shall mean that certain Confidentiality Agreement by and between Vical and Astellas dated […***…].

1.17 "**Control**" shall mean, with respect to any Information, Patent or other intellectual property right, possession by a party of the ability (whether by ownership, license or otherwise, but without taking into account any rights granted by one party to the other party under the terms of this Agreement) to grant access, a right to use, a license, or a sublicense (as applicable) to such Information, Patent or other intellectual property right without violating the terms of any agreement or other arrangement with any Third Party.

1.18 "**Excluded Claim**" shall have the meaning provided in Section 12.2(c)(vi).

1.19 "**Executives**" shall have the meaning provided in Section 12.2(b).

1.20 "**FDA**" shall mean the U.S. Food and Drug Administration, or any successor agency thereto having the administrative authority to regulate the marketing of human pharmaceutical products or biological therapeutic products in the Territory.

1.21 "**Field**" shall mean prevention and treatment of all human and animal diseases and disorders.

1.22 "**First Commercial Sale**" shall mean, with respect to a Product, the first sale for end use to a Third Party in the Territory after the Regulatory Authority has granted Regulatory Approval in the Territory.

1.23 "**Generic Product**" shall mean a product that is introduced in the Territory by an entity other than Vical or a Sublicensee or their respective Affiliates, which contains the same or equivalent (by FDA standards) therapeutically and/or prophylactically active ingredient(s) and is approved in reliance, in whole or in part, on a prior Regulatory Approval of a Product by the FDA.

1.24 "**GMP**" shall mean then-current good manufacturing practice standards applicable to the manufacturing of Compound or Products under applicable law, including 21 C.F.R. parts 210 and 211 and all applicable FDA rules, regulations, orders and guidances.

1.25 "**ICC**" shall have the meaning set forth in Section 12.2(c)(i).

1.26 "**ICC Rules**" shall have the meaning set forth in Section 12.2(c)(i).

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1.27 "IND" shall mean an Investigational New Drug Application (including any amendments thereto) for a Product in the Field in the Territory as filed with the FDA pursuant to 21 C.F.R. §312, or the equivalent application submitted to the applicable Regulatory Authority in any country or group of countries outside the United States.

1.28 "**Information**" shall mean all tangible and intangible (a) techniques, technology, practices, trade secrets, inventions (whether patentable or not), methods, protocols, processes, knowledge, know-how, skill, experience, information, data and results (including pharmacological, toxicological, clinical, analytical and quality control data and results), regulatory filings, marketing reports, software and algorithms and (b) compositions of matter, cells, cell lines, assays, animal models and physical, biological or chemical material.

1.29 "**Inventions**" shall have the meaning set forth in Section 6.1.

1.30 "**Losses**" shall have the meaning provided in Section 11.1.

1.31 "NDA" shall mean a new drug application (as more fully defined in 21 C.F.R. 314.5 et seq.) or equivalent application, and all amendments and supplements thereto, filed with the FDA in the United States or the applicable Regulatory Authority in a country or group of countries outside the United States (including any supra-national agency such as in the European Union), including all documents, data, and other information concerning a pharmaceutical product which are necessary for gaining Regulatory Approval to market and sell such pharmaceutical product.

1.32 "**Net Sales**" shall mean the gross amounts invoiced by Vical and/or its Sublicensees for sales or other dispositions of Products to Third Parties in the Territory, less the following items, as allocable to such Products (if not previously deducted from the amount invoiced): (a) trade, quantity and cash discounts, credits or allowances; (b) credits or allowances additionally granted upon returns, rejections or recalls or for retroactive price reductions and billing errors; (c) rebates, discounts and chargeback payments in any form granted to managed health care organizations, pharmacy benefit managers (or equivalents thereof), national, state/provincial, local, and other governments, their agencies and purchasers and reimbursers, or to trade customers; (d) freight, shipping and insurance charges directly related to the distribution of Products; and (e) taxes, duties or other governmental tariffs (other than income taxes).

Upon any sale or other disposition of any Product for any consideration other than exclusively monetary consideration on bona fide arm's-length terms, for purposes of calculating Net Sales under this Agreement, such Product shall be deemed to be sold exclusively for money at the average sales price during the applicable reporting period generally achieved for such Product when such Product is sold alone and not as part of a Combination Product.

In no event will any particular amount, identified above, be deducted more than once in calculating Net Sales. Sales of a Product between Vical and its Sublicensees for resale shall be excluded from the computation of Net Sales, but the subsequent resale of such Product to a Third Party shall be included within the computation of Net Sales. Any free-of-charge disposal or use of a Product for development, regulatory or marketing purposes, such as clinical trials,

compassionate use or indigent patient programs, shall not be deemed a sale or disposition for purposes of calculating Net Sales.

In the case of a Combination Product, Net Sales for such Combination Product shall be calculated by multiplying actual Net Sales of such Combination Product by the fraction A/(A+B) where A is the invoice price of the Product that contains the Compound as the sole active ingredient, if sold separately, and B is the total invoice price of the other active ingredient(s) in the Combination Product, if sold separately. If the other active ingredient(s) in the Combination Product is not sold separately in the Territory, Net Sales for the purpose of determining royalties of the Combination Product shall be calculated by multiplying actual Net Sales of such Combination Product by the fraction A/D, where A is the average invoice price of the Product that contains the Compound as the sole active ingredient, if sold separately in such country, and D is the average invoice price of the Combination Product in such country. If the Product that contains the Compound as the sole active ingredient is not sold separately in the Territory, the parties shall determine Net Sales for such Combination Product by mutual agreement based on the relative contribution of the Product that contains the Compound as the sole active ingredient and the other active ingredient(s) in the Combination Product.

Net Sales will be calculated in accordance with this definition and Vical's accounting policies generally consistent with the Accounting Standards on an accrual basis, as consistently applied. To the extent any accrued amounts used in the calculation of Net Sales are estimates, such estimates shall be trued-up in accordance with Vical's accounting policies generally consistent with the Accounting Standards, as consistently applied, and Net Sales and related payments under this Agreement shall be reconciled as appropriate.

1.33 "**Patent Term Extension**" shall have the meaning provided in Section 6.3.

1.34 "**Patents**" shall mean (a) all patents, including design patents, certificates of invention, applications for certificates of invention, priority patent filings and patent applications, including provisional patent applications and design patent applications, and (b) any renewal, divisional, continuation, continuation-in-part, or request for continued examination of any of such patents, certificates of invention and patent applications, and any and all patents or certificates of invention issuing thereon, and any and all reissues, reexaminations, extensions, certificates of correction, divisions, renewals, substitutions, confirmations, registrations, revalidations, revisions, and additions of or to any of the foregoing.

1.35 "**Phase IIb Clinical Trial**" shall mean a pivotal clinical trial that is conducted in human patients to evaluate the safety, dose ranging and efficacy of such Product and is prospectively designed to generate sufficient data (if successful) for the purpose of submitting an application for Regulatory Approval to the competent Regulatory Authority in the Territory.

1.36 "**Product**" shall mean any pharmaceutical product that contains the Compound, alone or as a Combination Product, including, in each case, all dosage forms, formulations, line extensions and modes of administration.

1.37 "**Regulatory Approval**" shall mean any and all approvals (including individual and national price and reimbursement approvals, as applicable), licenses, registrations, or

authorizations of any country, federal, supra-national, state or local regulatory agency, department, bureau or other governmental entity that are necessary to market and sell a Product in the Field in the Territory.

1.38 "**Regulatory Authority**" shall mean any national, federal, supra-national, regional, state or local regulatory agency, department, bureau, commission, council or other governmental entity whose review and/or approval is necessary for the manufacture, packaging, use, storage, import, export, distribution, promotion, marketing, offer for sale and sale of a Product in the Field in the Territory.

1.39 "**Royalty Term**" shall have the meaning provided in Section 4.3(b).

1.40 "**Sale**" shall have the meaning provided in Section 12.6(a).

1.41 "**SEC**" shall have the meaning provided in Section 8.5(a).

1.42 "**Sublicense Agreement**" shall have the meaning provided in Section 2.2.

1.43 "**Sublicensee**" shall mean a Third Party or Affiliate to whom Vical has granted a sublicense of the right to research, develop, make, have made, use, sell, offer for sale, have sold or import a Product in the Field in the Territory, beyond the mere right to purchase such Product.

1.44 "**Term**" shall have the meaning provided in Section 10.1.

1.45 "**Territory**" shall mean all countries worldwide.

1.46 "**Third Party**" shall mean any entity other than Vical or Astellas or an Affiliate of Vical or Astellas.

1.47 "**United States**" shall mean the United States of America and its territories and possessions.

1.48 "**Valid Claim**" shall mean a claim of an issued patent or pending patent application within the Astellas Patents that has not been revoked or held unenforceable or invalid by a decision of a court or governmental agency of competent jurisdiction from which no appeal can be taken, or with respect to which an appeal is not taken within the time allowed for appeal, and that has not been abandoned, disclaimed or admitted to be invalid or unenforceable through reissue, disclaimer, or otherwise.

1.49 "**Vical Change of Control**" shall have the meaning provided in Section 3.6.

1.50 "**Vical Indemnitee**" shall have the meaning provided in Section 11.1.

2. LICENSES AND OTHER RIGHTS

2.1 License and Sublicense Grant. Subject to the terms and conditions of this Agreement, Astellas hereby grants to Vical an exclusive (even as to Astellas and its Affiliates), royalty-bearing license, with the right to sublicense in accordance with Section 2.2, under the

Astellas Technology, to research, develop, register, make, have made, use, promote, distribute, sell, offer for sale, have sold, import, export and otherwise commercialize Products in the Field in the Territory.

2.2 Sublicensing. Vical shall have the right to grant sublicenses under the license granted in Section 2.1 to one or more Third Parties or Affiliates subject to the provisions of this Section 2.2. Each agreement under which Vical grants a sublicense under the license granted in Section 2.1 (each, a "***Sublicense Agreement***") shall (a) be in writing and (b) be consistent with, and subject to the terms and conditions of, this Agreement. Vical shall be responsible for compliance of any Sublicensee with this Agreement. Any breach of this Agreement by the acts or omissions of a Sublicensee shall be a breach of this Agreement by Vical. Vical shall provide Astellas with a full and complete copy of each Sublicense Agreement with a Third Party […***…] after execution thereof; provided, that Vical may redact any confidential information contained therein that is not necessary to disclose to ensure compliance with this Agreement.

2.3 Notice of Sublicensing. If Vical initiates discussions with a Third Party under a confidentiality agreement or non-disclosure agreement regarding a sublicense under the license rights granted in Section 2.1 to such Third Party, except for sublicensing the right to manufacture Compound or Products to a CMO, Vical shall […***…] send Astellas a written notice informing Astellas of such discussion with a Third Party and provide Astellas with the most updated scientific and commercial information of the Product; provided however that Vical shall not be obligated to disclose the name of the Third Party or the license terms under discussion.

2.4 Competitive Compound or Product. During the Term, (a) Vical and its Sublicensees and (b) Astellas and its licensees shall not, directly or indirectly through any Affiliate or Third Party, market, manufacture, promote, distribute, offer for sale or sell, import, export, or commercialize or grant any license or sublicense to market, manufacture, promote, distribute, offer for sale or sell, import, export or commercialize any Competitive Compound or Product in the Field in the Territory, and shall not conduct clinical development of any Competitive Compound or Product in the Field in the Territory. "***Competitive Compound or Product***" shall mean any […***…] or any antifungal product containing such a compound; provided however, that a "***Competitive Compound or Product***" does not include any antifungal compound or product which is used in combination therapy with Compound or Product for invasive fungal disease and which has different main modes of action from that of such Compound or Product.

2.5 Information, Data and Material.

(a) Within […***…] of the Effective Date, Astellas shall provide Vical with all Information that Astellas considers to be reasonably necessary for Vical to research, develop or manufacture the Compound and Product in the Territory; provided that all Information provided by Astellas pursuant to this Section 2.5(a) is provided to Vical "AS IS", subject to Astellas' representations and warranties in Article 7.

(b) At a time and place mutually agreed upon by the parties, Astellas will supply Vical, or the CMO designated by Vical, with [..***…] of the Compound, which are in Astellas' inventory as of the Effective Date. Within […***…] of the Effective Date, Astellas will also provide Vical with the GMP documentation in English related to the Compound, which is in Astellas' inventory, that is required for filing an IND. Such GMP documentation shall include, but not be limited to, manufacturing batch records, SOPs, batch release test methods, specifications and results, raw material Certificates of Analysis and Certificates of Origin, if applicable, raw material and intermediate specifications and test results, and the stability protocol and test results.

(c) Vical may request that Astellas store the Compound supplied to Vical pursuant to Section 2.5(b) at Vical's sole cost and expense, for a period of time mutually agreed upon by the parties, not to exceed […***…] from the Effective Date. In storing the Compound, Astellas shall be obliged only to use such care as it uses in the handling, storage and safeguarding of its own property of a similar nature.

(d) At a time mutually agreed upon by the parties, but in any event, within […***…] of the Effective Date, Astellas shall transfer to Vical, or to the CMO designated by Vical, the manufacturing technology for the Compound and Product, which Astellas or its Affiliates owns as of the Effective Date, including development reports, quality control and analytical methods which Astellas considers to be reasonably necessary for Vical or the CMO to manufacture the Compound and Product; provided that all information provided by Astellas pursuant to this Section 2.5(d) is provided to Vical "AS IS", subject to Astellas' representations and warranties in Article 7. Astellas and Vical shall discuss and agree to the transition plan of manufacturing technology for the Compound and Product and schedule ("Transfer Plan") as soon as reasonably practicable following the Effective Date. Astellas shall only be obliged to use its reasonable effort in the implementation of the Transfer Plan, with the understanding that such assistance shall be rendered by Astellas without requirement that Astellas personnel visit the site of Vical or its designated CMO, unless Astellas and Vical should agree to the contrary, in which case Vical shall reimburse all reasonable direct and indirect costs and expenses incurred by Astellas in making such visit. Astellas shall not be required to transfer the manufacturing technology in its totality more than once to Vical or its designated CMO after completion of the Transition Plan. If Vical requests Astellas to provide extra assistance, Astellas may provide such assistance, at its discretion, on the condition that Vical shall reimburse all reasonable direct and indirect costs and expenses incurred by Astellas for such extra assistance.

(e) Upon Vical's reasonable request within […***…] of the Effective Date, Astellas shall make available to Vical all Astellas Know-How in Astellas' possession that has not previously been provided to Vical, including any raw data and/or original data relating to the Compound and Products; provided that any Astellas Know-How provided under this Section 2.5 shall be provided "AS IS", subject to Astellas' representations and warranties in Article 7. For […***…] from the Effective Date, Astellas shall not destroy, discard or otherwise dispose of or shall have not destroyed, discarded or otherwise disposed of any Astellas Know-How without prior written approval of Vical, which approval shall not be unreasonably withheld; provided that, if requested by Vical, Astellas shall transfer to Vical such Astellas Know-How that Astellas proposes to destroy, discard or dispose of (or true and complete copies thereof).

2.6 Astellas' Support.

(a) Commencing promptly after the Effective Date, Astellas will complete IND-enabling non-clinical studies and English study reports as listed in the tables provided by Astellas to Vical listed on Exhibit B of a letter provided by Astellas to Vical as of the Effective Date. Astellas will provide to Vical such data and reports in English promptly following completion of such studies.

(b) Subject to the terms and conditions of this Agreement, if reasonably requested by Vical within […***…] of the Effective Date, Astellas may, at its sole discretion and to the extent mutually agreed upon by the parties in writing, provide Vical with limited support for the following activities with respect to Compound and Products:

(i) Nonclinical studies, other than those specified in Section 2.6(a);

(ii) CMC-related studies, other than those specified in Section 2.6(a);

(iii) Preparing certain parts of regulatory filings with respect to the initial IND submission for Compound or Product;

(iv) Preparing responses to questions from Regulatory Authorities in the Territory with respect to the initial IND submission for Compound or Product; and

(v) Checking the accuracy of Vical's English translation from Japanese of documents or data provided by Astellas to Vical.

(c) Vical shall reimburse all reasonable direct and indirect costs and expenses incurred by Astellas for any and all activities conducted under Section 2.6(b); provided that such costs and expenses were previously agreed upon in writing by the parties pursuant to a budget.

2.7 Retained Rights; No Implied Licenses. Except for the rights and licenses expressly granted in this Agreement, Astellas retains all rights under the Astellas Technology, and no rights shall be deemed granted by Astellas to Vical by implication, estoppel or otherwise.

3. DEVELOPMENT AND COMMERCIALIZATION OF PRODUCTS

3.1 Development of Products in the Field in the Territory. Subject to the terms and conditions of this Agreement, during the Term, Vical shall be solely responsible for the development of and obtaining Regulatory Approvals for Products in the Field in the Territory, including all costs associated with such activities. Without limiting the foregoing, Vical shall have sole responsibility, at Vical's cost and expense, for conducting clinical and non-clinical studies and CMC-related studies and activities with Products in the Field in the Territory and preparing, filing, obtaining and maintaining the appropriate applications with Regulatory Authorities, and for all contacts with Regulatory Authorities, regarding Products in the Field in the Territory. Vical shall use Commercially Reasonable Efforts to develop, and to file for, obtain and maintain Regulatory Approvals for a Product in the Field in the Territory and, without limiting the foregoing, to file an initial IND in the United States or in the European Union for a Product in the Field in the Territory within […***…] of the Effective Date. Vical shall

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perform all development and regulatory activities with respect to Products in the Field in the Territory in compliance with all applicable laws, rules and regulations. Furthermore, Vical shall be solely responsible for the timely reporting of all relevant adverse drug reactions/experiences, Product quality, Product complaints and safety data relating to Compound and Products, in each case in the Field, to the appropriate Regulatory Authorities in accordance with the applicable laws, rules and regulations of the Regulatory Authorities in the Territory. Vical shall prepare an initial development plan for the clinical development of the Products in the Field in the Territory, which plan shall be in reasonable scope and detail, and shall provide, or cause to be provided, such plan to Astellas for review within a reasonable time after the Effective Date.

3.2 Commercialization of Products in the Field in the Territory. Subject to the terms and conditions of this Agreement, during the Term, Vical shall be solely responsible for the commercialization of Products in the Field in the Territory, including any post-marketing studies of Products in the Field in the Territory, including all costs associated with such activities. Vical shall use Commercially Reasonable Efforts to commercialize Products in the Field in the Territory. Vical shall perform all commercialization activities with respect to Products in the Field in the Territory in compliance with all applicable laws, rules and regulations. Without limiting the foregoing, Vical shall have the sole right and responsibility for all commercial and medical affairs matters with respect to Products in the Field in the Territory.

3.3 Manufacture and Supply of Products. Subject to the terms and conditions of this Agreement, during the Term, Vical shall be solely responsible for the manufacture and supply of Products in the Field in the Territory, including CMC-related work necessary for obtaining Regulatory Approval for Products in the Field in the Territory, including all costs associated with such activities. Vical shall perform all manufacturing activities with respect to Products in the Field in the Territory in compliance with all applicable laws, rules and regulations.

3.4 Disclosure Regarding Vical's Efforts. Vical shall keep Astellas regularly and fully informed regarding development, regulatory, manufacturing and commercialization activities of Vical and its Sublicensees with respect to Products in the Field in the Territory. Without limiting the foregoing, Vical shall keep Astellas reasonably informed of the progress of such activities, and shall, within […***…] after the end of each Calendar Year during the Term, provide Astellas a report setting forth a reasonably detailed description of the progress and status of development, manufacture and commercialization of, and regulatory strategy and filings made and Regulatory Approvals obtained for, Products in the Field in the Territory, and a reasonably detailed description of the development, manufacture, commercialization and regulatory activities that Vical plans to undertake during the subsequent Calendar Year.

3.5 Subcontractors. Vical may perform some or all of its obligations under this Article 3 through one or more subcontractors. Vical shall remain responsible for the performance by any Third Party subcontractors and the compliance of such Third Party subcontractors with the provisions of this Agreement in connection with such performance.

3.6 Negative Covenant. In the event of a Vical Change of Control in which the Third Party acquiror or any of its Affiliates is manufacturing, using, marketing, promoting,

distributing, offering for sale, commercialising or selling a Competitive Compound or Product in the Field in the Territory as of the closing of such Vical Change of Control (a "***Competing Entity***"), then Vical shall (a) procure that such Competing Entity divests itself of rights to, or discontinues development or commercialization of, such Competitive Compound or Product in the Territory within […***…] of the closing of such Vical Change of Control or (b) terminate this Agreement upon written notice to Astellas within […***…] after the closing of such Vical Change of Control. The Competing Entity may commercialize the Competitive Compound or Product in the Territory that is already being commercialized at the time of the Vical Change of Control provided that, unless this Agreement is terminated pursuant to Section 3.6(b), the Net Sales of such Competitive Compound or Product shall be included in the calculation of any milestone payments based on Net Sales and royalties to be paid to Astellas under Section 4.2 and Section 4.3, respectively. "***Vical Change of Control***" shall mean a transaction or series of transactions pursuant to which a Third Party (i) acquires (whether by merger, consolidation or transfer or issuance of capital stock or otherwise) beneficial ownership, directly or indirectly, of more than fifty percent (50%) of Vical's then outstanding voting securities, or (ii) acquires all or substantially all of the assets of Vical; but excluding any such transaction or series of transactions described in clause (i) or (ii) in which, immediately after the consummation of such transaction or series of transactions, the holders of voting securities of Vical immediately prior to such transaction or series of transactions beneficially own, directly or indirectly, more than fifty percent (50%) of the outstanding voting securities of the successor entity (or the parent of such successor entity) in such transaction.

4. FEES AND PAYMENTS

4.1 Upfront Fee. Vical shall make a non-refundable, non-creditable payment to Astellas of US$1,120,000 payable as follows: (a) US$250,000 shall be paid by wire transfer to Astellas within thirty (30) days after the Effective Date; and (b) US$870,000 shall be paid to Astellas within thirty (30) days after the Effective Date in the form of Vical common stock, par value $0.01 per share, pursuant to that certain Stock Purchase Agreement by and between Vical and Astellas, dated as of the Effective Date. […***…]

4.2 Milestone Payments. Within […***…] after the occurrence of each of the following milestone events (other than items (vi), (vii) and (viii) below which shall be payable within […***…] after the occurrence of each such milestone event), Vical shall pay to Astellas the corresponding non-refundable, non-creditable milestone payment set forth below (whether such milestone event is achieved by Vical or any Sublicensee):

Milestone Event	Milestone Payment
(i) […***…]	US$[…***…]
(ii) […***…]	US$[…***…]

(iii)	[…***…]	US$[…***…]
(iv)	[…***…]	US$[…***…]
(v)	[…***…]	US$[…***…]
(vi)	[…***…]	US$[…***…]
(vii)	[…***…]	US$[…***…]
(viii)	[…***…]	US$[…***…]

Each of the milestone payments described in this Section 4.2 shall be payable one time for the first achievement of such milestone event by any applicable Product, regardless of the number of other Products that subsequently achieve such milestone event. For clarification, in the event two or more milestone events are achieved at the same time, the milestone payments for both milestone events shall be due.

4.3 Royalties.

(a) Royalty Rate. Vical shall pay Astellas nonrefundable, non-creditable royalties calculated by multiplying the following applicable royalty rates by the corresponding aggregate amount of Net Sales of all Products in the Territory in a Calendar Year:

Net Sales in the Territory Per Calendar Year	Royalty Rate
[…***…]	[…***…]
[…***…]	[…***…]
[…***…]	[…***…]

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(b) Royalty Term. Royalties under this Section 4.3 shall be payable on aggregate annual Net Sales of all Products in the Territory for a period determined on a country-by-country basis from the First Commercial Sale of a Product in a country in the Territory and ending upon the latest to occur of (i) expiration of the last to expire Valid Claim with respect to such Product (or the Compound therein) in such country, (ii) expiration of any data or other regulatory exclusivity period for such Product in such country or (iii) ten (10) years after the earliest date of First Commercial Sale of such Product in such country (the "***Royalty Term***").

(c) Royalty Reduction. During any portion of the Royalty Term for a Product in a country when (i) there is no Valid Claim with respect to such Product (or the Compound therein) in such country and (ii) there is no data or other regulatory exclusivity with respect to such Product in such country, the royalties payable under Section 4.3(a) on Net Sales of such Product in such country during such portion of the Royalty Term shall be adjusted by multiplying the royalties payable with respect to such country calculated in accordance with Section 4.3(a) (without adjustment) by […***…].

(d) Termination. Upon expiration (but not early termination) of the Royalty Term for a Product in a country and payment in full of all amounts owed to Astellas under this Agreement for such Product in such country, Vical's license with respect to such Product in such country shall become perpetual, fully-paid and royalty-free.

4.4 Payments to Third Parties. Vical (or its Sublicensee) shall be responsible for any and all payments owed to any Third Party for any Patents, Information or other intellectual property rights licensed or acquired by Vical (or its Sublicensee) after the Effective Date in order to develop, make, have made, use, promote, distribute, sell, offer for sale, have sold or import any Product in the Field in the Territory (it being understood that the decision to license or acquire any such Patents, Information or other intellectual property rights shall be at Vical's (or its Sublicensee's) discretion).

5. PAYMENT; RECORDS; AUDITS

5.1 Payment; Reports. All payments due under this Agreement shall be paid within […***…] days of the end of each Calendar Quarter, unless otherwise specifically provided herein. Royalty payments shall be calculated and reported for each Calendar Quarter. Each royalty payment due to Astellas shall be accompanied by a report of Net Sales by Vical and its Sublicensees, each in sufficient detail to permit confirmation of the accuracy of the payment made, including, without limitation and on a country-by-country basis, the number of Products sold, the gross sales with reconciliation to Net Sales of such Products, the royalties payable, the method used to calculate the royalties, and the exchange rates used.

5.2 Exchange Rate; Manner and Place of Payment. All payments hereunder shall be payable in U.S. dollars. When conversion of payments from any foreign currency is required, such conversion shall be at an exchange rate equal to the weighted average of the rates of exchange for the currency of the country from which the royalties are payable as published by the *Wall Street Journal*, Eastern Edition (or such other source agreed in writing by the parties),

during the Calendar Quarter for which a payment is due. All payments owed under this Agreement shall be made by wire transfer in immediately available funds to a bank account designated in writing by Astellas, unless otherwise specified in writing by Astellas.

5.3 Income Tax Withholding. Each party will pay any and all taxes levied on account of any payments made to it under this Agreement. If any taxes are required to be withheld by the paying party, the paying party will (a) deduct such taxes from the payment made to the other party, (b) timely pay the taxes to the proper taxing authority, and (c) send proof of payment to the other party and certify its receipt by the taxing authority within […***…] following such payment. For purposes of this Section, each party agrees to provide the other with reasonable assistance to enable the due deduction by the paying party and appropriate recovery by the other party, which assistance includes, but is not limited to, provision of any tax forms and other information that may be reasonably necessary in order for the paying party not to withhold tax or to withhold tax at a reduced rate under an applicable bilateral income tax treaty.

5.4 Records; Audits. Vical shall keep, and require its Sublicensees to keep, complete, fair and true books of accounts and records for the purpose of determining the amounts payable to Astellas pursuant to this Agreement. Such books and records shall be kept for such period of time required by law, but no less than […***…] following the end of the Calendar Quarter to which they pertain. Astellas shall have the right to cause an independent, certified public accountant, reasonably acceptable to Vical, to audit such records to confirm Net Sales, royalties and other payments for a period covering not more than the preceding […***…]. Except for for-cause audits, audits may be exercised not more often than once each year, only once for each relevant record, and during normal business hours upon reasonable prior written notice to Vical. Any such auditor shall not disclose Vical's Confidential Information to Astellas, except to the extent such disclosure is necessary to verify the accuracy of such records. Prompt adjustments shall be made by the parties to reflect the results of such audit. Astellas shall bear the full cost of such audit unless such audit discloses an underpayment by Vical of more than […***…] of the amount of royalties or other payment due under this Agreement, in which case, Vical shall bear the full cost of such audit and shall promptly remit to Astellas the amount of any underpayment.

5.5 Late Payments. In the event that any payment due under this Agreement is not made when due, the payment shall accrue interest from the date due at the rate of […***…] above the U.S. Prime Rate (as set forth by Bloomberg (Ticker symbol PRIME index)); provided, however, that in no event shall such rate exceed the maximum legal annual interest rate. The payment of such interest shall not limit Astellas from exercising any other rights it may have as a consequence of the lateness of any payment.

6. INTELLECTUAL PROPERTY

6.1 Ownership. Astellas has, and shall retain, all right, title and interest in and to, the Astellas Patents and Astellas Know-How. Inventorship of all discoveries and/or inventions, whether or not patentable, made or developed by or on behalf of Astellas or Vical in the course of research, development, manufacture, or commercialization of the Compound or Product in the Field and all Patent(s) on, and other intellectual property rights in, such discoveries and/or

inventions ("***Inventions***") shall be determined in accordance with the rules of inventorship under applicable patent laws. Any such Inventions owned by Astellas shall be included, as appropriate, in Astellas Technology and subject to the license granted under Section 2.1.

6.2 Patent Prosecution and Maintenance. As between the parties, Astellas (or its licensor, as applicable) shall have the sole right, but not the obligation, to prepare, file, prosecute (including any interferences, extensions, reissue proceedings and reexaminations) and maintain the Astellas Patents, at its sole cost (subject to Section 6.3) and by counsel of its own choice. Astellas shall provide Vical with reasonable opportunity to review and comment on any material document that Astellas intends to file or cause to be filed with the relevant intellectual property or patent office with respect to the Astellas Patents in the Territory, and Astellas shall give due consideration to such comments provided by Vical. Vical agrees to reasonably cooperate in the preparation, filing and prosecution of any Astellas Patents and in the obtaining and maintenance of any supplementary protection certificates and the like with respect to any Astellas Patent claiming a Product being developed or commercialized by Vical or Sublicensees in the Territory. Such cooperation includes, but is not limited to, promptly informing Astellas of any matters coming to Vical's attention that may affect the preparation, filing, prosecution or maintenance of any Astellas Patents. In the event that Astellas determines to abandon or cease prosecution or maintenance of any Astellas Patent in the Territory, Astellas shall provide reasonable prior written notice to Vical of such intention to abandon or cease prosecution or maintenance. In such case, subject to the rights of Astellas' licensor with respect to any Astellas Patent licensed to Astellas by a Third Party, Vical may elect, upon written notice by Vical to Astellas, to cause Astellas to continue prosecution and/or maintenance of such Astellas Patent in the Territory, at Vical's sole cost and expense and in accordance with Vical's instructions for any such Astellas Patent. Vical shall reimburse Astellas for such costs and expenses incurred by Astellas in connection with prosecuting and/or maintaining any such Astellas Patent within […***…] from the date of invoice for such costs and expenses by Astellas. In the event that Vical desires to cease bearing the costs and expenses with respect to any such Astellas Patent, Vical shall provide reasonable prior written notice to Astellas of such intention. In such case, Astellas shall have the right, but not the obligation, to elect to continue prosecuting and maintaining any such Astellas Patent at its own expense.

6.3 Additional Patent Term Extension Obligations. Vical shall keep Astellas fully informed of the progress of Vical (and, as applicable, its Sublicensee(s)) toward Regulatory Approval of the first Product in the Territory. Vical shall assist Astellas in determining with respect to such Product if the Astellas Patents would be eligible for patent term extension pursuant to 35 U.S.C. §§154–56 ("***Patent Term Extension***"). Vical acknowledges that time is of the essence with respect to submission of any application for Patent Term Extension. Vical shall give Astellas notification in writing of its (or, as applicable, its Sublicensee's) first obtaining Regulatory Approval of a Product in the Territory within […***…] of receipt of written notice of such Regulatory Approval from the applicable Regulatory Authority. Astellas shall apply for Patent Term Extension for any Astellas Patent as requested by Vical, at Vical's expense. At Astellas' request, Vical shall, in a timely manner, reasonably assist Astellas in preparing an application for Patent Term Extension. Vical (and, as applicable, its Sublicensee(s)) shall reasonably cooperate with Astellas in preparing the applications for Patent Term Extension. Vical agrees to join in such applications at Astellas' request. Vical shall reasonably support such

applications and shall provide such information as may be requested by Astellas or any Regulatory Authority in support of such applications.

6.4 Patent Enforcement. Each party shall promptly notify the other in writing of any alleged or threatened infringement of any Astellas Patent in the Territory of which such party becomes aware. The following provisions shall apply to any action or proceeding with respect to infringement by a Third Party of any Astellas Patent in the Territory.

(a) Enforcement. As between the parties, Astellas shall have the first right to bring and control any action or proceeding with respect to infringement by a Third Party of any Astellas Patent in the Field in the Territory, at its own expense and by counsel of its own choice. Vical shall have the right, at its own expense, to be represented in any such action with respect to infringement of any Astellas Patents in the Field in the Territory by counsel of its own choice, and Astellas and its counsel shall reasonably cooperate with, and take into account the view of, Vical and its counsel in strategizing, preparing and presenting any such action or proceeding. If Astellas fails to bring an action or proceeding with respect to infringement of any Astellas Patent in the Field in the Territory within (i) […***…] following the notice of alleged infringement or (ii) […***…] before the time limit, if any, set forth in the appropriate laws and regulations for the filing of such actions, whichever comes first, Vical shall have the right (but not the obligation) to bring and control any such action at its own expense and by counsel of its own choice, and Astellas shall have the right, at its own expense, to be represented in any such action by counsel of its own choice.

(b) Cooperation; Awards. In the event a party brings an infringement action in accordance with this Section 6.4, the other party shall reasonably cooperate, including if required to bring such action, joining such action as a necessary party or the furnishing of a power of attorney. Neither party shall have the right to settle any patent infringement litigation with respect to any Astellas Patent under this Section 6.4 in a manner that diminishes the rights or interests of the other party without the prior written consent of such other party (which shall not be unreasonably withheld). Except as otherwise agreed to by the parties as part of a cost-sharing arrangement, any recovery or damages realized as a result of such action or proceeding shall be used first to reimburse the parties' documented out-of-pocket legal expenses relating to the action or proceeding, and any remaining damages relating to the Products (including lost sales or lost profits with respect to Products) shall be retained by the party that brought and controlled the action and, if Vical brought and controlled such action, shall be deemed Net Sales subject to the royalty provisions of Section 4.3.

6.5 Third Party Infringement Claims. Each party shall promptly notify the other party in writing of any allegation by a Third Party that the activity of either party with respect to the development, manufacture or commercialization of any Product in the Field in the Territory infringes or may infringe the intellectual property rights of such Third Party. Vical shall have the sole right to control any defense of any such claim involving alleged infringement of Third Party rights by Vical's activities, at Vical's sole cost and expense and by counsel of its own choice, and Astellas shall have the right, at its own expense, to be represented in any such action by counsel of its own choice. Astellas shall have the sole right to control any defense of any such claim involving alleged infringement of Third Party rights by Astellas' activities, at Astellas' sole cost and expense and by counsel of its own choice, and Vical shall have the right,

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at its own expense, to be represented in any such action by counsel of its own choice. Neither party shall enter into any settlement or compromise of any action under this Section 6.5 which would in any manner diminish the rights or interests of the other party without the prior written consent of such other party (which shall not be unreasonably withheld).

6.6 Orange Book Listing. Vical shall have the sole right to make any filing with respect to any Astellas Patents in connection with the FDA's Orange Book. Upon request of Astellas, Vical shall cooperate with Astellas to file appropriate information with the FDA listing any Astellas Patents in the Orange Book.

6.7 Patent Marking. Vical shall mark all Products made, used or sold in the Territory, or their containers, if required under applicable laws, rules and regulations relating to patent marking.

6.8 Certification. Astellas and Vical each will immediately (and no later than […***…] following the date when Astellas or Vical becomes aware of the certification described in this Section), give notice to the other of any certification of which they become aware filed under the U.S. Drug Price Competition and Patent Term Restoration Act of 1984, as amended, arising from the filing of an application for the regulatory approval of a Generic Product claiming that Patents covering any Product are invalid or non-enforceable or that infringement will not arise from the manufacture, use or sale of any Product in the Field in the Territory by a Third Party. Any action based on such a certification shall be brought and controlled as provided in Section 6.4.

6.9 Trademarks. Vical shall be responsible for selection, registration and maintenance of the trademark(s) for Products in the Field in the Territory, at its own cost, and all such trademark(s) shall be filed and exclusively owned by Vical.

7. REPRESENTATIONS AND WARRANTIES

7.1 Mutual Representations and Warranties. Each party represents and warrants to the other party as of the Effective Date that:

(a) Organization. It is duly organized and validly existing under the laws of its jurisdiction of incorporation or formation, and has full corporate or other power and authority to enter into this Agreement and to carry out the provisions hereof.

(b) Authorization. It is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder, and the person or persons executing this Agreement on its behalf has been duly authorized to do so by all requisite corporate or partnership action.

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

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(d) Agreements with Employees and Contractors. All of such party's employees or contractors acting on its behalf pursuant to this Agreement or any other written agreement between the parties are and will be obligated under a binding written agreement to comply with obligations of confidentiality and non-use consistent with those set forth in Article 8.

(e) No Debarment. Such party is not debarred under the U.S. Federal Food, Drug and Cosmetic Act or comparable laws in any other country or jurisdiction, and it does not, and will not during the Term, employ or use the services of any person or entity who is debarred, in connection with the development, manufacture or commercialization of the Products. In the event that either party becomes aware of the debarment or threatened debarment of any person or entity providing services to such party, including the party itself and its Affiliates or Sublicensees, which directly or indirectly relate to activities under this Agreement, the other party shall be immediately notified in writing.

7.2 Astellas Representations and Warranties. Astellas represents, warrants and covenants to Vical as of the Effective Date that:

(a) Control. Astellas is the sole owner of all of the Astellas Technology existing as of the Effective Date, free and clear of all liens.

(b) Right to Grant License. Astellas has the right to grant the license it grants to Vical under Section 2.1 of this Agreement.

(c) No Conflicting Grant of Rights. Astellas and its Affiliates have not, and will not during the Term, grant any right to any Third Party that would conflict with the rights granted to Vical hereunder or, except with Vical's prior written consent, allow a Third Party to create and maintain any security interest in (i) Astellas Patents or (ii) any rights granted to Vical hereunder, to secure third-party financing; provided that Astellas may allow a Third Party to create and maintain such a security interest without Vical's prior written consent if such security interest is subject to the rights granted to Vical under such Astellas Patents or other rights as set forth in this Agreement.

(d) No Infringement. Astellas has not received any notice alleging, and is not otherwise actually aware, that the practice of the Astellas Patents infringes or may infringe any Patent(s) of any Third Party.

(e) No Legal Actions. As of the Effective Date, there are no pending legal actions, nor has Astellas received any written notice regarding any pending legal actions, with respect to the Astellas Technology, and no Astellas Patent is the subject of any interference, opposition, cancellation or other protest proceeding.

(f) Disclosure. Up to and including the Effective Date, Astellas has made available to Vical (i) all material information (including without limitation pre-clinical and clinical data) in its possession or Control relating to the Compound, the Product(s) and Astellas Patents in the Field in the Territory, including material information in its or its Affiliates' possession or Control that is material to the utility or safety of the Compound and/or the

Product(s) in the Field in the Territory, and (ii) all safety data in its or its Affiliates' possession or Control relating to the Compound and Product(s).

7.3 Disclaimer. Except as expressly set forth herein, THE ASTELLAS TECHNOLOGY IS PROVIDED "AS IS," AND EACH PARTY EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF DESIGN, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES, OR ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICES.

7.4 Limitation of Liability. NEITHER PARTY SHALL BE ENTITLED TO RECOVER FROM THE OTHER PARTY ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES IN CONNECTION WITH THIS AGREEMENT OR ANY LICENSE GRANTED HEREUNDER; *provided, however,* that this Section 7.4 shall not be construed to limit either party's indemnification obligations under Article 11 or its right to obtain recover damages for breach of Article 8. For clarification, payments under Article 4 shall not be considered special, incidental, consequential or punitive damages.

8. CONFIDENTIALITY

8.1 Confidential Information. Except to the extent expressly authorized by this Agreement or otherwise agreed in writing by the parties, the parties agree that, during the Term and until the […***…] anniversary of the date of expiration or termination of the later to expire or terminate of this Agreement, each party (in such capacity, the "***receiving party***") shall keep confidential and shall not publish or otherwise disclose and shall not use for any purpose other than as expressly provided for in this Agreement or the Confidentiality Agreement any Confidential Information of the other party (in such capacity, the "***disclosing party***"). The receiving party may use Confidential Information of the other party only to the extent required to accomplish the purposes of this Agreement. The receiving party will use at least the same standard of care as it uses to protect proprietary or confidential information of its own (but not less than reasonable care) to ensure that its employees, agents, consultants and other representatives do not disclose or make any unauthorized use of the Confidential Information of the disclosing party. The receiving party will promptly notify the disclosing party upon discovery of any unauthorized use or disclosure of the Confidential Information of the disclosing party. Without limiting the foregoing, the parties acknowledge that Astellas Know-How includes valuable trade secrets and that it is in the interests of both parties to protect the confidentiality of the Astellas Know-How; provided, that nothing will limit or prevent Astellas from using or disclosing the Astellas Know-How in connection with its discussions and activities outside the scope of the exclusive license granted to Vical hereunder with respect to the Compound and Products in the Field in the Territory.

8.2 Exceptions. Confidential Information shall not include any information which the receiving party can demonstrate by competent evidence: (a) is now, or hereafter becomes, through no act or failure to act on the part of the receiving party, generally known or available; (b) is known by the receiving party at the time of receiving such information, as evidenced by its

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records; (c) is hereafter furnished to the receiving party by a Third Party, as a matter of right and without restriction on disclosure; or (d) is independently discovered or developed by the receiving party without the use of Confidential Information of the disclosing party.

8.3 Authorized Disclosure. The receiving party may disclose Confidential Information of the disclosing party as expressly permitted by this Agreement or if and to the extent such disclosure is reasonably necessary in the following instances:

(a) prosecuting or defending litigation as permitted by this Agreement;

(b) complying with applicable court orders or governmental regulations;

(c) in the case of Vical, conducting development, manufacturing and/or commercialization activities in accordance with the license granted in Section 2.1, including making regulatory filings with respect to Products; and

(d) disclosure to Affiliates, sublicensees, subcontractors, employees, consultants, agents or other Third Parties who need to know such information for the development, manufacture and commercialization of Products in accordance with this Agreement or in connection with due diligence or similar investigations by such Third Parties, and disclosure to potential Third Party investors in confidential financing documents, provided, in each case, that any such Affiliate, sublicensee, subcontractor, employee, consultant, agent or Third Party agrees to be bound by similar terms of confidentiality and non-use at least equivalent in scope to those set forth in this Article 8.

Notwithstanding the foregoing, in the event the receiving party is required to make a disclosure of the disclosing party's Confidential Information pursuant to Section 8.3(a) or (b), it will, except where impracticable, give reasonable advance notice to the disclosing party of such disclosure and use efforts to secure confidential treatment of such information at least as diligent as the receiving party would use to protect its own confidential information, but in no event less than reasonable efforts. In any event, the receiving party agrees to take all reasonable action to avoid disclosure of Confidential Information of the disclosing party.

8.4 Confidentiality of this Agreement and its Terms. Except as otherwise provided in this Article 8, each party agrees not to disclose to any Third Party the existence of this Agreement or the terms of this Agreement without the prior written consent of the other party hereto, except that each party may disclose the terms of this Agreement that are not otherwise made public as contemplated by Section 8.5 as permitted under Section 8.3.

8.5 Public Announcements.

(a) Press Releases. As soon as practicable following the date hereof, the parties shall each issue a mutually agreed press release announcing the existence of this Agreement. Except as required by applicable laws and regulations (including disclosure requirements of the U.S. Securities and Exchange Commission ("***SEC***") or any stock exchange on which securities issued by a party or its Affiliates are traded), neither party shall make any other public announcement concerning this Agreement or the subject matter hereof without the prior written consent of the other, which shall not be unreasonably withheld or delayed; provided

that each party may make any public statement, including statements in response to questions by the press, analysts, investors or those attending industry conferences or financial analyst calls, or issue press releases, so long as any such public statement or press release is not inconsistent with prior public disclosures or public statements approved by the other party pursuant to this Section 8.5 and which do not reveal non-public information about the other party. For avoidance of doubt, Astellas shall have the right, without the prior written consent of Vical, to announce events such as achievement of milestones under this Agreement, and other events deemed material by its General Counsel; provided, however, that Astellas shall consult with Vical with regard thereto and provide reasonable opportunity for Vical to review such announcement in advance. In the event of a required public announcement, to the extent practicable under the circumstances, the party making such announcement shall provide the other party with a copy of the proposed text of such announcement sufficiently in advance of the scheduled release to afford such other party a reasonable opportunity to review and comment upon the proposed text.

(b) Filing of Agreement. The parties will coordinate in advance with each other in connection with the filing of this Agreement (including redaction of certain provisions of this Agreement) with the SEC or any stock exchange or governmental agency on which securities issued by a party or its Affiliate are traded, and each party will use reasonable efforts to seek confidential treatment for the terms proposed to be redacted; provided that each party will ultimately retain control over what information to disclose to the SEC or any stock exchange or other governmental agency, as the case may be, and provided further that the parties will use their reasonable efforts to file redacted versions with any governing bodies which are consistent with redacted versions previously filed with any other governing bodies. Other than such obligation, neither party (nor its Affiliates) will be obligated to consult with or obtain approval from the other party with respect to any filings to the SEC or any stock exchange or other governmental agency.

(c) Publications.

(i) Except as otherwise set forth in Section 8.5(c)(ii) below, at least […***…] prior to publishing, publicly presenting, and/or submitting for written or oral publication a manuscript, abstract or the like that includes Information relating to any Product in the Field that has not been previously published, each party shall provide to the other party a draft copy thereof for its review (unless such party is required by law to publish such Information sooner, in which case such party shall provide such draft copy to the other party as much in advance of such publication as possible). The publishing party shall consider in good faith any comments provided by the other party during such […***…] period. In addition, the publishing party shall, at the other party's reasonable request, remove therefrom any Confidential Information of such other party, except each party shall have the right to publicly disclose any information, including Confidential Information, pertaining to safety or efficacy of the Product that such party believes in good faith it is obligated by applicable law or appropriate to conform to applicable regulatory requirements to disclose; provided that it shall delay publication for a period not to exceed […***…] in order to allow the other party to file for patent protection as permitted by this Agreement in relation to its Confidential Information. The contribution of each party shall be noted in all publications or presentations by acknowledgment or co-authorship, as appropriate.

(ii) In the event Vical desires to publish, publicly present, and/or submit for written or oral publication a manuscript, abstract or the like that includes Information relating to any Product in the Field but that does not include any Confidential Information of Astellas, Vical shall provide to Astellas a draft copy thereof for its review prior to the date of such publication, presentation or submission, and Vical shall consider in good faith any comments provided by Astellas with respect thereto.

(iii) Vical shall, within a reasonable amount of time after the Effective Date and from time to time thereafter, provide to Astellas a copy of its plan for publication regarding Compounds and Products in the Field, including all material updates and changes thereto.

8.6 Equitable Relief. Given the nature of the Confidential Information and the competitive damage that would result to the disclosing party upon unauthorized disclosure, use or transfer of its Confidential Information to any Third Party, the parties agree that monetary damages may not be a sufficient remedy for any breach of this Article 8. In addition to all other remedies, the disclosing party shall be entitled to seek specific performance and injunctive and other equitable relief as a remedy for any breach or threatened breach of this Article 8.

9. COLLABORATIVE RESEARCH AGREEMENT WITH OUTSIDE RESEARCHERS OR INSTITUTIONS

9.1 Sample Supply. Astellas shall have the right to supply the Compound to its outside researchers and/or institutions ("***Astellas Outside Researchers***") who wish to use the same solely for their research purpose to whom Astellas has made any commitment before the Effective Date. Astellas shall enter into a material transfer agreement containing customary terms, including confidentiality and non-disclosure obligations and restrictions on use for research purposes only, with each Astellas Outside Researcher. Astellas shall provide to Vical, as soon as reasonably practicable after the Effective Date, a letter disclosing the identity of each Astellas Outside Researcher, the quantities of the Compound each such Astellas Outside Researcher will receive or has received, the term during which each Astellas Outside Researcher may use the Compound and, if known, the anticipated timeline for publication of an abstract or manuscript by each such Astellas Outside Researcher, to the extent that such disclosure is expressly authorized under such material transfer agreement or any other agreement(s) between Astellas and each such Astellas Outside Researcher or by a prior written consent of each such Astellas Outside Researcher, provided however, that Vical shall treat the letter and information included therein as Astellas' Confidential Information.

9.2 Publication by Astellas Outside Researchers. Astellas may receive and review the draft abstract or manuscript for publication prepared by the Astellas Outside Researchers with whom Astellas has provided the Compound before and after the Effective Date under Astellas' material transfer agreements, provided that Astellas will use its reasonable efforts to provide Vical with such abstract or manuscript to the extent such provision is expressly authorized under such material transfer agreement or any other agreement(s) between Astellas and each such Astellas Outside Researcher or by a prior written consent of each such Astellas Outside Researcher, provided however, that (a) the ownership and the strategy for protection of any intellectual property right which may be made by such Astellas Outside Researchers,

including but not limited to the countries for which such intellectual property right will be sought and (b) the timing and contents of the publication of such manuscript shall be determined by mutual agreement between Astellas and such Astellas Outside Researchers, and provided further that Vical shall treat such abstract or manuscript and information included therein as Astellas' Confidential Information.

10. TERM AND TERMINATION

10.1 Term. The term of this Agreement shall commence on the Effective Date and continue until the expiration of the last Royalty Term, subject, in each case, to earlier termination pursuant to Section 10.2 (the "***Term***").

10.2 Early Termination.

(a) Termination for Cause.

(i) A party shall have the right to terminate this Agreement upon written notice to the other party if such other party is in material breach of this Agreement and has not cured such breach within […***…] with respect to any payment breach) after written notice from the terminating party requesting cure of such breach. Any such termination shall become effective at the end of such […***…] with respect to any payment breach) period unless the breaching party has cured any such breach prior to the end of such period.

(ii) A party shall have the right to terminate this Agreement upon written notice to the other party upon the bankruptcy, dissolution or winding up of such other party, or the making or seeking to make or arrange an assignment for the benefit of creditors of such other party, or the initiation of proceedings in voluntary or involuntary bankruptcy, or the appointment of a receiver or trustee of such other party's property that is not discharged within […***…].

(b) Other Vical Termination Right. Vical shall have the right to terminate this Agreement on a country-by-country basis upon […***…] prior written notice to Astellas if Vical reasonably determines that further development and/or commercialization of Products in the Field in the Territory will not be beneficial for Vical for scientific, regulatory, commercial, financial, ethical or other fair reasons specified in reasonable detail in writing to Astellas. Vical will also have the right to terminate this Agreement as provided in Section 3.6(b).

(c) Other Astellas Termination Rights. Astellas shall have the right to terminate this Agreement immediately upon written notice to Vical if Vical or any of its Affiliates or Sublicensees, directly or indirectly through any Third Party, commences any interference or opposition proceeding with respect to, challenges the validity or enforceability of, or opposes any extension of or the grant of a supplementary protection certificate with respect to, any Astellas Patent.

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10.3 Effect of Termination or Expiration; Surviving Obligations.

(a) Effect of Any Termination. Upon any termination of this Agreement by either party:

(i) all rights and obligations of the parties under this Agreement shall terminate, except as provided in Sections 10.3, 10.4, 10.5 and, as applicable, 10.6;

(ii) Vical shall perform its outstanding non-cancellable obligations with respect to Products in the Territory that existed or accrued prior to the notice date of termination; and

(iii) Vical shall cooperate with and provide reasonable assistance to Astellas with respect to any applications for Patent Term Extension, including providing such information as may be requested by Astellas or any Regulatory Authority in support of such applications.

(b) Effect of Any Termination Other than Termination by Vical for Cause. Upon any termination of this Agreement by Vical under Section 10.2(b) with respect to any country or countries or by Astellas under Section 10.2(a) or (c):

(i) if, at the time of such termination, there are any ongoing clinical trials with respect to Products in the Field in the terminated country or in the Territory, as applicable, the parties shall, at Astellas' option, negotiate in good faith and adopt a plan to wind-down the development activities in an orderly fashion or, at Astellas' election, promptly transition such development activities to Astellas or its designee, with due regard for patient safety and the rights of any subjects that are participants in any clinical trials of the Product and take any actions Astellas deems reasonably necessary or appropriate to avoid any human health or safety problems and in compliance with all applicable laws, rules and regulations; and

(ii) Vical shall, and hereby does, grant to Astellas:

(1) the unrestricted right to use and refer to all Information, including all data and regulatory documents, relating to the Compound or Product, in the terminated country or countries and, if this Agreement is terminated in its entirety, in the Territory;

(2) an exclusive, royalty-free, perpetual, irrevocable license, with the right to sublicense and further sublicense, under all Compound-specific and Product-specific Patents Controlled by Vical or its Affiliates or jointly-owned by the parties in the Field in the terminated country or countries and, if this Agreement is terminated in its entirety, in the Territory;

(3) a non-exclusive, royalty-free, perpetual, irrevocable license, with the right to sublicense and further sublicense, under all Patents Controlled by Vical or its Affiliates other than those referenced in subsection (2) above, which Patents would, but for the license granted in this subsection (3), be infringed by the development, use, manufacture, promotion, sale, offer for sale, distribution, import or export of the Compound or Product in the

Field in the Territory, solely to develop, use, make, have made, promote, sell, offer for sale, distribute, import, export and otherwise commercialize the Compound and Products in the Field in the terminated country or countries and, if this Agreement is terminated in its entirety, in the Territory; and

(4) take such other actions and execute such other instruments, assignments and documents as may be necessary to effect the transfers of rights as set forth in subsections (1), (2) and (3) above.

(c) Surviving Terms. Expiration or termination of this Agreement shall not relieve the parties of any obligation accruing prior to such expiration or termination. Without limiting the foregoing, the obligations and rights of the parties under Sections 4.3(d), 5.4 (for the period described therein), 6.1, 7.3, 7.4, 10.3, 10.4 and 10.5 and Articles 1, 8, 11 and 12 shall survive expiration or termination of this Agreement.

(d) Return of Confidential Information. Within […***…] following the expiration or termination of this Agreement, each party shall deliver to the other party or destroy any and all Confidential Information of the other party in its possession, as per instruction by the party which owns such Confidential Information. Notwithstanding the foregoing, in the event that Vical grants to Astellas the right and license pursuant to Section 10.3(b), Astellas shall not be required to make delivery or destruction pursuant to this Section 10.3(d).

10.4 Exercise of Right to Terminate. The use by either party hereto of a termination right provided for under this Agreement shall not give rise to the payment of damages or any other form of compensation or relief to the other party with respect thereto.

10.5 Damages; Relief. Subject to Section 10.4 above, termination of this Agreement shall not preclude either party from claiming any other damages, compensation or relief that it may be entitled to upon such termination.

10.6 Rights in Bankruptcy. All rights and licenses granted under or pursuant to this Agreement by a party are, and will otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of right to "intellectual property" as defined under Section 101 of the U.S. Bankruptcy Code. The parties agree that a party, as licensee of such rights under this Agreement, will retain and may fully exercise all of its rights and elections under the U.S. Bankruptcy Code. The parties further agree that, in the event of the commencement of a bankruptcy proceeding by or against the licensing party under the U.S. Bankruptcy Code, the licensee will be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property and all embodiments of such intellectual property, and same, if not already in its possession, will be promptly delivered to it (a) upon any such commencement of a bankruptcy proceeding upon its written request therefor, unless the licensing party elects to continue to perform all of its obligations under this Agreement, or (b) if not delivered under subsection (a) above, following the rejection of this Agreement by or on behalf of the licensing party upon written request therefor by the licensee.

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11. INDEMNIFICATION

11.1 Indemnification by Astellas. Astellas hereby agrees to save, defend and hold Vical, its Affiliates and its and their respective directors, officers, employees and agents and, with respect to the indemnification set forth in Section 11.1 only, also Vical's Sublicensees, subcontractors and distributors (each, a "***Vical Indemnitee***") harmless from and against any and all claims, suits, actions, demands, liabilities, expenses and/or loss, including reasonable legal expense and attorneys' fees (collectively, "***Losses***"), to which any Vical Indemnitee may become subject as a result of any claim, demand, action or other proceeding by any Third Party to the extent such Losses arise directly or indirectly out of (a) the gross negligence or willful misconduct of any Astellas Indemnitee with respect to any obligations or activities contemplated by this Agreement or (b) the breach by Astellas of any warranty, representation, covenant or agreement made by Astellas in this Agreement; except, in each case, to the extent such Losses result from the gross negligence or willful misconduct of any Vical Indemnitee or the breach by Vical of any warranty, representation, covenant or agreement made by Vical in this Agreement.

11.2 Indemnification by Vical. Vical hereby agrees to save, defend and hold Astellas and its Affiliates and its and their respective directors, officers, employees and agents (each, an "***Astellas Indemnitee***") harmless from and against any and all Losses to which any Astellas Indemnitee may become subject as a result of any claim, demand, action or other proceeding by any Third Party to the extent such Losses arise directly or indirectly out of: (a) the development, manufacture, use, handling, storage, sale or other disposition of any Product in the Territory by Vical or any of its Sublicensees, (b) the gross negligence or willful misconduct of any Vical Indemnitee with respect to any obligations or activities contemplated by this Agreement, or (c) the breach by Vical of any warranty, representation, covenant or agreement made by Vical in this Agreement; except, in each case, to the extent such Losses result from the gross negligence or willful misconduct of any Astellas Indemnitee or the breach by Astellas of any warranty, representation, covenant or agreement made by Astellas in this Agreement.

11.3 Control of Defense. Any person entitled to indemnification under this Article 11 shall give notice to the indemnifying party of any Losses that may be subject to indemnification, promptly after learning of such Losses, and the indemnifying party shall assume the defense of such Losses with counsel reasonably satisfactory to the indemnified party. If such defense is assumed by the indemnifying party with counsel so selected, the indemnifying party will not be subject to any liability for any settlement of such Losses made by the indemnified party without its prior written consent (but such consent will not be unreasonably withheld or delayed), and will not be obligated to pay the fees and expenses of any separate counsel retained by the indemnified party with respect to such Losses.

11.4 Insurance. Each party shall, at its own expense, procure and maintain during the Term and for a period of […***…] thereafter, insurance policy/policies, including product liability insurance, adequate to cover its obligations hereunder and which are consistent with normal business practices of prudent companies similarly situated. Such insurance shall not be construed to create a limit of a party's liability with respect to its obligations hereunder including the indemnification obligations under this Article 11. Each party shall provide the other party with written evidence of such insurance or self-insurance upon request. Each party shall provide the other party with written notice at least […***…] prior to the cancellation, non-renewal

or material change in such insurance self-insurance which could materially adversely affect the rights of such other party hereunder.

12. GENERAL PROVISIONS

12.1 Governing Law. This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of New York, excluding its conflicts of laws principles with the exception of sections 5-1401 and 5-1402 of New York General Obligations Law.

12.2 Dispute Resolution.

(a) Objective. The parties recognize that disputes as to matters arising under or relating to this Agreement or either party's rights and/or obligations hereunder may arise from time to time. It is the objective of the parties to establish procedures to facilitate the resolution of such disputes in an expedient manner by mutual cooperation and without resort to litigation. To accomplish this objective, the parties agree to follow the procedures set forth in this Section 12.2 to resolve any such dispute if and when it arises.

(b) Resolution by Executives. If an unresolved dispute as to matters arising under or relating to this Agreement or either party's rights and/or obligations hereunder arises, either party may refer such dispute to the Chief Executive Officer of Vical and a senior executive of Astellas who reports directly to the Chief Executive Officer of Astellas (the Chief Executive Officer of Vical and such senior executive of Astellas, collectively, the "***Executives***"), who shall meet in person or by telephone within […***…] after such referral to attempt in good faith to resolve such dispute. If such matter cannot be resolved by discussion of the Executives within […***…] following such meeting (as may be extended by mutual written agreement), such dispute shall be resolved in accordance with Section 12.2(c).

(c) Arbitration.

(i) If the parties do not resolve a dispute as provided in Section 12.2(b), and a party wishes to pursue the matter, each such dispute that is not an "Excluded Claim" (as defined below) shall be resolved by binding arbitration in accordance with the Rules of Arbitration of the International Chamber of Commerce ("***ICC***") as then in effect (the "***ICC Rules***"), and judgment on the arbitration award may be entered in any court having jurisdiction thereof. The decision rendered in any such arbitration will be final and not appealable. If either party intends to commence binding arbitration of such dispute, such party will provide written notice to the other party informing the other party of such intention and the issues to be resolved. Within […***…] after the receipt of such notice, the other party may by written notice to the party initiating binding arbitration, add additional issues to be resolved.

(ii) The arbitration shall be conducted by a panel of […***…] arbitrators experienced in the pharmaceutical business, none of whom shall be a current or former employee or director, or a then-current stockholder, of either party, their respective Affiliates or any Sublicensee. Within […***…] after receipt of the original notice of binding arbitration, each party shall select one person to act as arbitrator and the two party-selected arbitrators shall select a third arbitrator within […***…] of their appointment. If the

arbitrators selected by the parties are unable or fail to agree upon the third arbitrator, the third arbitrator shall be appointed by the ICC in accordance with the ICC Rules. The place of arbitration shall be New York, New York and all proceedings and communications shall be in English.

(iii) It is the intention of the parties that discovery, although permitted as described herein, will be limited except in exceptional circumstances. The arbitrators will permit such limited discovery necessary for an understanding of any legitimate issue raised in the arbitration, including the production of documents. No later than […***…] after selection of the arbitrators, the parties and their representatives shall hold a preliminary meeting with the arbitrators, to mutually agree upon and thereafter follow procedures seeking to assure that the arbitration will be concluded within […***…] from such meeting. Failing any such mutual agreement, the arbitrators will design and the parties shall follow procedures to such effect.

(iv) Either party may apply to the arbitrators for interim injunctive relief until the arbitration award is rendered or the controversy is otherwise resolved. Either party also may, without waiving any remedy under this Agreement, seek from any court having jurisdiction any injunctive or provisional relief necessary to protect the rights or property of that party pending the arbitration award. The arbitrators shall have no authority to award punitive or any other non-compensatory damages. The arbitrators shall have the power to order that all or part of the legal or other costs incurred by a party in connection with the arbitration be paid by the other party. Subject to the preceding sentence, each party shall bear an equal share of the arbitrators' and any administrative fees of arbitration.

(v) Except to the extent necessary to confirm or enforce an award or as may be required by applicable law, neither a party nor an arbitrator may disclose the existence, content or results of an arbitration without the prior written consent of both parties. In no event shall arbitration be initiated after the date when commencement of a legal or equitable proceeding based on the dispute, controversy or claim would be barred by the applicable New York statute of limitations.

(vi) As used in this Section, the term "***Excluded Claim***" shall mean a dispute, controversy or claim that concerns (A) the validity, enforceability or infringement of a patent, trademark, copyright or regulatory data exclusivity; or (B) any antitrust, anti-monopoly or competition law or regulation, whether or not statutory.

12.3 Entire Agreement; Modification. This Agreement, including any information provided by letter as contemplated herein, is both a final expression of the parties' agreement and a complete and exclusive statement with respect to all of its terms. Except for the separate letter provided by Astellas to Vical as contemplated herein, this Agreement supersedes all prior and contemporaneous agreements and communications, whether oral, written or otherwise, concerning any and all matters contained herein and therein, including the Confidentiality Agreement. This Agreement may only be modified or supplemented in a writing expressly stated for such purpose and signed by the parties to this Agreement.

12.4 Relationship Between the Parties. The parties' relationship, as established by this Agreement, is solely that of independent contractors. This Agreement does not create any

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partnership, joint venture or similar business relationship between the parties. Neither party is a legal representative of the other party, and neither party can assume or create any obligation, representation, warranty or guarantee, express or implied, on behalf of the other party for any purpose whatsoever.

12.5 Non-Waiver. The failure of a party to insist upon strict performance of any provision of this Agreement or to exercise any right arising out of this Agreement shall neither impair that provision or right nor constitute a waiver of that provision or right, in whole or in part, in that instance or in any other instance. Any waiver by a party of a particular provision or right shall be in writing, shall be as to a particular matter and, if applicable, for a particular period of time and shall be signed by such party.

12.6 Assignment. Except as expressly provided hereunder, neither this Agreement nor any rights or obligations hereunder may be assigned or otherwise transferred by either party without the prior written consent of the other party (which consent shall not be unreasonably withheld); provided, however, that either party may assign or otherwise transfer this Agreement and its rights and obligations hereunder without the other party's consent:

(a) in connection with the transfer or sale of all or substantially all of the business or assets of such party relating to the Compound and Products to a Third Party, whether by merger, sale of stock, sale of assets or otherwise (a "***Sale***"), provided that in the event of a Sale (whether this Agreement is actually assigned or is assumed by the acquiring party by operation of law (*e.g.*, in the context of a reverse triangular merger)), intellectual property rights of the acquiring party to such transaction (if other than one of the parties to this Agreement) shall not be included in the technology licensed hereunder; or

(b) to an Affiliate, provided that the assigning party shall remain liable and responsible to the non-assigning party hereto for the performance and observance of all such duties and obligations by such Affiliate.

The rights and obligations of the parties under this Agreement shall be binding upon and inure to the benefit of the successors and permitted assigns of the parties. Any assignment not in accordance with this Agreement shall be void.

12.7 No Third Party Beneficiaries. This Agreement is neither expressly nor impliedly made for the benefit of any party other than those executing it, except as otherwise provided in this Agreement with respect to Astellas Indemnitees under Section 11.2 and Vical Indemnitees under Section 11.1.

12.8 Severability. If, for any reason, any part of this Agreement is adjudicated invalid, unenforceable or illegal by a court of competent jurisdiction, such adjudication shall not affect or impair, in whole or in part, the validity, enforceability or legality of any remaining portions of this Agreement. All remaining portions shall remain in full force and effect as if the original Agreement had been executed without the invalidated, unenforceable or illegal part.

12.9 Cumulative Remedies. No remedy referred to in this Agreement is intended to be exclusive, but each shall be cumulative and in addition to any other remedy referred to in this Agreement or otherwise available under law.

12.10 Notices. Any notice to be given under this Agreement must be in writing and delivered either in person, by any method of mail (postage prepaid) requiring return receipt, or by overnight courier or facsimile or electronic mail (email) transmission confirmed thereafter by any of the foregoing, to the party to be notified at its address(es) given below, or at any address such party has previously designated by prior written notice to the other. Notice shall be deemed sufficiently given for all purposes upon the earliest of: (a) the date of actual receipt; (b) if mailed, five (5) days after the date of postmark; or (c) if delivered by overnight courier, the next business day the overnight courier regularly makes deliveries.

If to Astellas, notices must be addressed to:

Astellas Pharma Inc.
5-1, Nihonbashi-Honcho 2-chome
Chuo-Ku, Tokyo 103-8411
Japan
Attention: Vice President, Legal & Compliance
Facsimile: […***…]

With a copy to:

Astellas Pharma Inc.
5-1, Nihonbashi-Honcho 2-chome
Chuo-Ku, Tokyo 103-8411
Japan
Attention: Vice President, Business Development
Facsimile: […***…]

If to Vical, notices must be addressed to:

Vical Incorporated
10390 Pacific Center Court
San Diego, California 92121
USA
Attention: Business Development
Facsimile: […***…]
Email: […***…]

With a copy to:

Cooley LLP
4401 Eastgate Mall
San Diego, California 92121
USA
Attention: […***…]
Telephone: (858) 550-6000
Facsimile: […***…]
Email: […***…]

12.11 Force Majeure. Except for the obligation to make payment when due, each party shall be excused from liability for the failure or delay in performance of any obligation under this Agreement by reason of any event beyond such party's reasonable control including but not limited to Acts of God, fire, flood, explosion, earthquake, or other natural forces, war, civil unrest, accident, destruction or other casualty, any lack or failure of transportation facilities, any lack or failure of supply of raw materials, any strike or labor disturbance, or any other event similar to those enumerated above. Such excuse from liability shall be effective only to the extent and duration of the event(s) causing the failure or delay in performance and provided that the party has not caused such event(s) to occur. Notice of a party's failure or delay in performance due to force majeure must be given to the other party within […***…] after its occurrence. All delivery dates under this Agreement that have been affected by force majeure shall be tolled for the duration of such force majeure. In no event shall any party be required to prevent or settle any labor disturbance or dispute.

12.12 Interpretation.

(a) Captions & Headings. The captions and headings of clauses contained in this Agreement preceding the text of the articles, sections, subsections and paragraphs hereof are inserted solely for convenience and ease of reference only and shall not constitute any part of this Agreement, or have any effect on its interpretation or construction.

(b) Interpretation. All references in this Agreement to the word "including" shall be deemed to be followed by the phrase "without limitation" or like expression. All references in this Agreement to the singular shall include the plural where applicable, and all references to gender shall include both genders and the neuter.

(c) Articles, Sections & Subsections. Unless otherwise specified, references in this Agreement to any article shall include all sections, subsections, and paragraphs in such article; references in this Agreement to any section shall include all subsections and paragraphs in such sections; and references in this Agreement to any subsection shall include all paragraphs in such subsection.

(d) Days. All references to days in this Agreement shall mean calendar days, unless otherwise specified.

(e) Ambiguities. Ambiguities and uncertainties in this Agreement, if any, shall not be interpreted against either party, irrespective of which party may be deemed to have caused the ambiguity or uncertainty to exist.

(f) English Language. This Agreement has been prepared in the English language and the English language shall control its interpretation. In addition, all notices required or permitted to be given hereunder, and all written, electronic, oral or other communications between the parties regarding this Agreement shall be in the English language.

12.13 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original document, and all of which, together with this writing, shall be deemed one instrument. Signatures provided by facsimile transmission or in Adobe™

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Portable Document Format (PDF) sent by electronic mail shall be deemed to be original signatures.

[Remainder of this page intentionally left blank.]

IN WITNESS WHEREOF, the parties hereto have duly executed this **LICENSE AGREEMENT** as of the date set forth below.

VICAL INCORPORATED

By: /s/ Vijay B. Samant
Name: Vijay B. Samant
Title: President and CEO
Date: March 24, 2015

ASTELLAS PHARMA INC.

By: /s/ Yoshihiko Hatanaka
Name: Yoshihiko Hatanaka
Title: President and CEO
Date: March 16, 2015

Exhibit 31.1

CERTIFICATION

I, Vijay B. Samant, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Vical Incorporated;

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

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

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

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

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

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

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

5. I have disclosed, based on my 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 8, 2015

By: /s/ VIJAY B. SAMANT
Vijay B. Samant
Chief Executive Officer and Acting Chief Financial Officer

Exhibit 32.1

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

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. § 1350, as adopted), Vijay B. Samant, the Chief Executive Officer and Acting Chief Financial Officer of Vical Incorporated (the "Company"), hereby certifies that, to the best of his knowledge:

1. The Company's Quarterly Report on Form 10-Q for the period ended March 31, 2015, to which this Certification is attached as Exhibit 32.1 (the "Periodic Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition of the Company at the end of the period covered by the Periodic Report and results of operations of the Company for the period covered by the Periodic Report.

Dated: May 8, 2015

/s/ VIJAY B. SAMANT
Vijay B. Samant
Chief Executive Officer and
Acting Chief Financial Officer

THIS CERTIFICATION "ACCOMPANIES" THE FORM 10-Q TO WHICH IT RELATES, IS NOT DEEMED FILED WITH THE SEC AND IS NOT TO BE INCORPORATED BY REFERENCE INTO ANY FILING OF THE COMPANY 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. A SIGNED ORIGINAL OF THIS CERTIFICATION HAS BEEN PROVIDED TO THE COMPANY AND WILL BE RETAINED BY THE COMPANY AND FURNISHED TO THE SECURITIES AND EXCHANGE COMMISSION OR ITS STAFF UPON REQUEST.