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As filed with the Securities and Exchange Commission on July 10, 2014.
Registration No. 333-196936

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

AMENDMENT NO. 1
TO
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

ATARA BIOTHERAPEUTICS, INC.

(Exact name of Registrant as specified in its charter)

Delaware	2836	46-0920988
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

3260 Bayshore Boulevard
Brisbane, CA 94005
(415) 287-2410
(Address, including zip code and telephone number, of Registrant's principal executive offices)

Isaac E. Ciechanover, M.D.
Chief Executive Officer
Atara Biotherapeutics, Inc.
3260 Bayshore Boulevard
Brisbane, CA 94005
(415) 287-2410
(Name, address, including zip code and telephone number, including area code, of agent for service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

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

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

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be registered[1][2]	Proposed maximum aggregate offering price per share[2]	Proposed maximum aggregate offering price	Amount of registration fee[3]
Common Stock, $0.0001 par value per share	5,750,000	$16.00	$92,000,000	$11,850

(1) Includes 750,000 shares of common stock that the underwriters have the option to purchase.
(2) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(a) of the Securities Act of 1933, as amended. Includes additional shares that the underwriters have the option to purchase.
(3) The registrant previously paid a $6,440 registration fee with the initial filing of this registration statement. In accordance with Rule 457(a), an additional registration fee of $5,410 is being paid in connection with this amendment to the registration statement.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject To Completion. Dated July 10, 2014.

5,000,000 Shares

Common Stock

This is an initial public offering of shares of common stock of Atara Biotherapeutics, Inc.

We are selling 5,000,000 shares of our common stock in this offering.

Prior to this offering, there has been no public market for our common stock. It is currently estimated that the initial public offering price per share will be between $14.00 and $16.00. We intend to list our common stock on The Nasdaq Global Market under the symbol “ATRA.”

We are an “emerging growth company” under applicable Securities and Exchange Commission rules and will be subject to reduced public company reporting requirements.

Investing in our common stock involves a high degree of risk. See Risk Factors” on page 10 to read about factors you should consider before buying shares of our common stock.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share	Total
Initial public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Proceeds to us, before expenses	$	$

(1) We refer you to “Underwriting” beginning on page 140 for additional information regarding total underwriting compensation.

We have granted the underwriters an option to purchase up to an additional 750,000 shares at the initial public offering price less the underwriting discount.

The underwriters expect to deliver the shares against payment in New York, New York on , 2014.

Goldman, Sachs & Co. **Citigroup**

Jefferies

Prospectus dated , 2014

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We have not authorized anyone to provide you with any information or to make any representation, other than those contained in this prospectus or any free writing prospectus we have prepared. We take no responsibility for, and provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares offered hereby, but only in circumstances and in jurisdictions where it is lawful to so do. The information contained in this prospectus is accurate only as of its date, regardless of the time of delivery of this prospectus or of any sale of our common stock.

Neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the United States. You are required to inform yourself about, and to observe any restrictions relating to, this offering and the distribution of this prospectus.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should read the entire prospectus carefully, including the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our combined and consolidated financial statements and related notes included elsewhere in this prospectus. Unless the context suggests otherwise, references in this prospectus to "Atara," "Atara Biotherapeutics," "we," "us" and "our" refer to Atara Biotherapeutics, Inc. and, where appropriate, its subsidiaries.

Atara Biotherapeutics, Inc.

We are a clinical-stage biopharmaceutical company focused on developing novel therapeutics for serious unmet medical needs, with an initial focus on muscle wasting conditions and oncology. Our product candidates are biologics targeting myostatin and activin, members of the Transforming Growth Factor-Beta, or TGF-ß, protein superfamily, which play roles in the growth and maintenance of muscle and many other body tissues. Our lead product candidate, PINTA 745, is in a Phase 2 clinical trial for protein-energy wasting, a condition affecting many end-stage renal disease patients. Our second product candidate is STM 434, and we expect to commence a Phase 1 clinical study of STM 434 for ovarian cancer and other solid tumors in the second half of 2014. We have five additional molecules in preclinical development. We hold worldwide rights to our entire portfolio, except for PINTA 745 in Japan. We intend to license or acquire additional product candidates to develop and commercialize.

Our Novel Approach to Treat Protein Energy Wasting in ESRD Patients: PINTA 745

Our lead product candidate, PINTA 745, is a peptibody that binds to and inhibits myostatin, a protein that down regulates muscle growth and maintenance. In a Phase 1 study, PINTA 745 was found to increase muscle mass compared to placebo after one month of weekly dosing, an increase that was statistically significant, indicating that it is more likely than not that the benefit observed in the study was due to drug treatment rather than chance. We are enrolling a US-based Phase 2 clinical trial to further establish the role of PINTA 745 in building muscle mass, as well as to collect data from corresponding functional muscle tests. This trial is being conducted in patients with end-stage renal disease, or ESRD, who are also suffering from protein-energy wasting, or PEW—a condition characterized by muscle wasting, inflammation and malnutrition.

PEW is a major complication of ESRD. A recent study we completed with DaVita Clinical Research, a division of DaVita Healthcare Partners Inc., concluded that more than half of DaVita's dialysis population meet the conditions for PEW and, in comparison to the rest of the group, exhibit worse morbidity and mortality. Based on data from the US Renal Data System, we estimate that the current total US dialysis population, excluding patients who had successfully received kidney transplants, is 460,000 patients. Of these patients, we estimate that approximately 250,000 patients suffer from PEW. Worldwide, we believe that more than 800,000 patients suffer from PEW.

There is currently no approved therapy for patients suffering from PEW. We believe PINTA 745 is the only potential therapeutic in clinical development to treat this patient population.

In clinical studies conducted of PINTA 745 in men with prostate cancer and in mouse studies in a model of chronic kidney disease, or CKD, conducted with PINTA 745/s, a version of PINTA 745 that was customized for use in mice, several properties well suited for a potential therapeutic for PEW were observed, including:

- ***Reversing muscle loss*** — PINTA 745 not only stopped muscle wasting, it significantly increased muscle mass after four weeks of treatment.
- ***Dosing control*** — PINTA 745 has a human circulating half-life of four days, which affords physicians a significant level of dosing control while conveniently aligning with dialysis treatment schedules. We believe that this is particularly important in ESRD patients given changes in patient weight.
- ***Anti-inflammatory properties*** — In an animal model of renal disease, PINTA 745/s exhibited significant anti-inflammatory properties, a factor that we believe will be important due to the critical role that inflammation plays in PEW and the overall declining health of ESRD patients.

Our ongoing US-based Phase 2 trial is a 40-patient, randomized, double-blind, placebo-controlled trial that, in addition to providing us with assessments of change in muscle mass and muscle strength, will give us insight into potential additional markets for PINTA 745. These could include: orthopedic indications; inflammation and inflammatory diseases; age-related sarcopenia (loss of muscle); and cancer cachexia (a syndrome of progressive weight loss). In each of these conditions, muscle loss prevention, muscle growth and reduction in inflammation resulting from treatment with PINTA 745 could lead to improved physical function and therefore to better outcomes. We expect to release initial data from this Phase 2 clinical trial in the second half of 2015.

Our Novel Approach to Treat Ovarian Cancer: STM 434

Our second product candidate, STM 434, has an open investigational new drug application, or IND, and we expect to commence a Phase 1 clinical study of up to 66 patients with ovarian cancer and other solid tumors in the second half of 2014. STM 434 is a soluble ActR2B receptor that binds Activin A. Activin has been shown to be involved in the growth and proliferation of ovarian cancer and other tumors, with published evidence of its role at both the genetic (messenger RNA) and protein levels. Activin expression is one of a few biomarkers associated with larger tumor volume and poorer outcomes, including shortened survival in a variety of tumors including ovarian tumors. Published data has shown that serum Activin A levels in ovarian cancer subjects are elevated in relation to levels in normal subjects. We plan to test the potential use of Activin A as a biomarker in our Phase 1 clinical study.

Ovarian cancer is the fifth leading cause of cancer death in women in the United States. According to the National Cancer Institute, there were an estimated 22,240 new ovarian cancer cases and 14,030 ovarian cancer deaths in the United States in 2013. Surgery and cytotoxic chemotherapies are widely used to treat ovarian cancer; however, the outcomes have changed little in 40 years. The proportion of all ovarian cancer patients surviving five years after diagnosis was only 44% based on the National Cancer Institute SEER database for women diagnosed from 2003 to 2009.

Some subtypes of ovarian tumors respond even more poorly to treatment than others and represent opportunities where drug development could be accelerated. In particular, clear cell and granulosa cell tumors are considered resistant to chemotherapy. Our preclinical experiments in animal models of these subtypes indicate that binding Activin A with a soluble receptor could significantly reduce tumor proliferation, reduce tumor volume and potentially increase survival. We believe that novel therapies for clear cell and granulosa cell tumors could qualify for US Food and Drug Administration, or FDA, breakthrough designation, an FDA process designed to accelerate the

development and review of drugs intended to treat a serious condition when early studies show that the drug may be substantially better than current treatment, and therefore such novel therapies could achieve expedited regulatory approval. Based on its mechanism of action, we also believe that STM 434 has the potential to be the first product to target tumor growth and proliferation through the inhibition of Activin A.

Both PINTA 745 and STM 434 are novel molecules with well-characterized mechanisms of action. They were developed initially, along with our five other in-licensed programs, at Amgen Inc., or Amgen. Taken together, we believe these unique product candidates constitute a pipeline of biologics that have benefited from years of investment, resulting in a large patent portfolio, broad preclinical testing and, in the case of PINTA 745, promising clinical results. We are evaluating the remaining five molecules to determine the best path forward. Where appropriate, we intend to conduct preclinical studies and file INDs with the FDA for these candidates.

Our Management Team

We believe our management team has the breadth and depth of experience to execute our business model. Our management team includes:

- ***Isaac E. Ciechanover, M.D.***, our President and Chief Executive Officer, was Executive Director for Business Development at Celgene Corporation, or Celgene. At Celgene, he led the company's venture capital efforts and led licensing and acquisition activities with an aggregate transaction value of more than $6.7 billion. Prior to founding Atara, Dr. Ciechanover was a Partner with Kleiner Perkins Caufield & Byers, a leading venture capital firm.
- ***Christopher Haqq, M.D., Ph.D.***, our Chief Medical Officer, was Vice President for Clinical Research and Development at Cougar Biotechnology, Inc., or Cougar Biotechnology, which was acquired by Johnson & Johnson in 2009. At Cougar Biotechnology, he was the lead clinician for a pivotal prostate cancer study leading to market approval for Zytiga (abiraterone acetate). He has served as medical monitor for more than ten clinical trials and served as an attending oncology physician and director of a translational laboratory at the University of California, San Francisco.
- ***Mitchall G. Clark***, our Chief Regulatory and Quality Officer, was previously Senior Vice President of Global Regulatory Affairs at Abraxis Bioscience, Inc., or Abraxis, where he submitted and managed five INDs for oncology and cardiovascular drugs including Abraxane.
- ***Gad Soffer***, our Chief Operating Officer, previously held various roles at Celgene, including most recently Global Project Leader for Abraxane following Celgene's acquisition of Abraxis, where he led successful regulatory submissions for pancreatic cancer and non-small cell lung cancer.
- ***John F. McGrath, Jr.***, our Chief Financial Officer, was previously Executive in Residence and Operating Partner at Kleiner Perkins Caufield & Byers. Prior to that time, he served as Vice President and Chief Financial Officer for Network Equipment Technologies, Inc., a publicly traded company.

Our Strategy

Our business model is to license or acquire and develop novel molecules for serious unmet medical needs with validated molecular targets and established proof of concept. Based on the properties of each of these molecules, including efficacy, safety, pharmacokinetics, affinity and other characteristics, we match each program to clinical indications that we believe maximize its therapeutic potential and may result in an expedited path to market.

Our goal is to be a leader in the development and commercialization of novel therapeutics for serious unmet medical needs. We are initially focused on muscle wasting conditions and oncology. Key components to achieve this objective include:

- rapidly advance PINTA 745 in clinical development, initially for PEW;
- obtain clinical proof of concept for STM 434, initially in ovarian cancer and other solid tumors;
- evaluate our other product candidates and advance them into the clinic as appropriate;
- leverage our relationships and experience to in-license or acquire additional molecules for development; and
- retain worldwide rights for product candidates.

Risks Associated with Our Business

Our business is subject to numerous risks and uncertainties, including those highlighted in the section titled “Risk Factors” immediately following this prospectus summary. Some of these risks are:

- we have a limited operating history on which to assess our business, have generated no revenues, have incurred significant losses since our inception and anticipate that we will continue to incur losses for the foreseeable future;
- we expect that we will need to raise additional financing to achieve our product candidate development, regulatory approval and commercialization goals;
- we are very early in our product candidate development efforts and are heavily dependent on the regulatory approval and successful commercialization of our two lead product candidates;
- we rely on third parties to conduct our preclinical studies and clinical trials;
- we have no experience manufacturing our product candidates on a large clinical or commercial scale and are dependent on third parties to conduct such manufacturing;
- our commercial success depends on attaining significant market acceptance of our product candidates, if approved, among physicians, patients, healthcare payors and major operators of dialysis and cancer centers;
- if we are unable to obtain and maintain sufficient intellectual property protection for our product candidates, we may not be able to compete effectively; and
- our future success depends in part upon our ability to retain members of our executive management team and to attract, retain and motivate other qualified personnel.

Corporate Information

We were incorporated in August 2012 in Delaware. Our company was originally formed as a management company with the sole purpose of providing management, administrative and financial services for three related companies, all of which were also incorporated in August 2012: Nina Biotherapeutics, Inc., or Nina; Pinta Biotherapeutics, Inc., or Pinta; and Santa Maria Biotherapeutics, Inc., or Santa Maria. On March 31, 2014, we implemented a recapitalization in which (a) all the outstanding shares of capital stock of Atara were cancelled and forfeited by existing stockholders and (b) we issued shares of our common and convertible preferred stock to the existing stockholders of Nina, Pinta and Santa Maria in the same proportions and with the same rights and privileges as the outstanding capital stock of Nina, Pinta and Santa Maria, on a collective nine-for-one basis. We refer to

this transaction as our recapitalization. Because we have determined that Atara, Nina, Pinta and Santa Maria were under common management and common ownership since inception, our financial statements for all periods and as of all dates prior to the recapitalization are presented on a combined basis. Beginning March 31, 2014, the time of recapitalization, our financial statements are presented on a consolidated basis. These combined and consolidated financial statements include the accounts of the four individual companies since inception, with intercompany transactions eliminated.

Our principal executive offices are located at 3260 Bayshore Boulevard, Brisbane, California and our telephone number is (415) 287-2410. Our website address is www.atarabio.com. Information contained on or accessible through our website is not a part of this prospectus and should not be relied upon in determining whether to make an investment decision.

Atara, Atara Biotherapeutics, the Atara logo and other trade names, trademarks or service marks of Atara appearing in this prospectus are the property of Atara. Trade names, trademarks and service marks of other companies appearing in this prospectus are the property of their respective holders.

We are an “emerging growth company” as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, and therefore we may take advantage of certain exemptions from various public company reporting requirements, including not being required to have our internal control over financial reporting audited by our independent registered public accounting firm pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments. We may take advantage of these exemptions until we are no longer an “emerging growth company.” We will remain an “emerging growth company” for up to five years. We will cease to be an “emerging growth company” upon the earliest of: (1) the last day of the fiscal year following the fifth anniversary of this offering, (2) the last day of the first fiscal year in which our annual gross revenues are $1 billion or more, (3) the date on which we have, during the previous rolling three-year period, issued more than $1 billion in non-convertible debt securities, and (4) the date on which we are deemed to be a “large accelerated filer” as defined in the Securities Exchange Act of 1934, as amended, or the Exchange Act. We are choosing to irrevocably opt out of the extended transition periods available under the JOBS Act for complying with new or revised accounting standards.

THE OFFERING

Common stock offered by Atara	5,000,000 shares
Common stock to be outstanding after this offering	19,403,128 shares
Option to purchase additional shares of common stock	750,000 shares
Use of proceeds	We estimate that our net proceeds from this offering will be approximately $67.0 million, or approximately $77.5 million if the underwriters' option to purchase additional shares of our common stock is exercised in full, based on an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses. We intend to use the net proceeds from this offering primarily (1) to continue clinical development and manufacturing of PINTA 745, (2) to continue preclinical and clinical development and manufacturing of STM 434, (3) to continue to advance and expand our preclinical research pipeline and (4) for working capital and other general corporate purposes, including funding the costs of operating as a public company and potentially including acquiring or licensing products, businesses or technologies, although we have no present commitments for any such acquisitions or licenses. See "Use of Proceeds" for additional information.
Risk factors	See "Risk Factors" beginning on page 10 and the other information included in this prospectus for a discussion of factors you should carefully consider before deciding to invest in our common stock.
Proposed Nasdaq Global Market symbol	"ATRA"

The number of shares of common stock to be outstanding after this offering is based on 14,403,128 shares of our common stock (including preferred stock on an as-converted basis) outstanding as of March 31, 2014, on a pro forma basis giving effect to the recapitalization, and excludes the following:

- 885,959 shares of common stock issuable upon settlement of restricted stock units, or RSUs, outstanding as of March 31, 2014 pursuant to the equity incentive plans adopted by Nina, Pinta and Santa Maria, which we have assumed and refer to as the 2012 Plans;
- 69,612 shares of common stock issuable upon settlement of RSUs issued or upon the exercise of options granted after March 31, 2014 under our 2014 Equity Incentive Plan, or 2014 Plan;

- 2,301,352 shares of common stock to be reserved for future issuance under our 2014 Plan, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan; and
- 230,769 shares of common stock to be reserved for issuance under our 2014 Employee Stock Purchase Plan, or our ESPP, to be effective in connection with this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan.

In addition, unless we specifically state otherwise, all information in this prospectus assumes:

- the completion of our recapitalization;
- a 1.3-for-1 reverse split of our outstanding common stock and preferred stock effective on July 9, 2014;
- the automatic conversion of all outstanding shares of our preferred stock as of March 31, 2014 into an aggregate of 12,298,515 shares of common stock upon the closing of this offering;
- the filing and effectiveness of our amended and restated certificate of incorporation in Delaware and the adoption of our amended and restated bylaws, each of which will occur upon the completion of this offering; and
- no exercise of the underwriters' option to purchase up to an additional 750,000 shares of common stock.

SUMMARY COMBINED AND CONSOLIDATED FINANCIAL DATA

The following tables summarize our combined and consolidated financial data. You should read this summary combined and consolidated financial data together with the sections titled "Selected Combined and Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" as well as our combined and consolidated financial statements and related notes included elsewhere in this prospectus.

We have derived the summary combined statement of operations data for the period from August 22, 2012 (inception) to December 31, 2012 and the year ended December 31, 2013 from our audited combined financial statements included elsewhere in this prospectus. We have derived the summary combined and consolidated statements of operations data for the three months ended March 31, 2013 and 2014 and the period from August 22, 2012 (inception) to March 31, 2014 and our balance sheet data as of March 31, 2014 from our unaudited interim combined and consolidated financial statements included elsewhere in this prospectus. The unaudited interim combined and consolidated financial statements have been prepared on the same basis as the audited combined financial statements and reflect, in the opinion of management, all adjustments of a normal, recurring nature that are necessary for a fair presentation of the unaudited interim combined and consolidated financial statements. Our historical results are not necessarily indicative of the results that should be expected in the future, and our interim results are not necessarily indicative of the results that should be expected for the full year or any other period.

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013	Three months ended March 31, (unaudited)		Period from August 22, 2012 (Inception) to March 31, 2014 (unaudited)
			2013	2014	
	(in thousands, except share and per share information)				
Combined and Consolidated Statements of Operations and Comprehensive Loss Data:					
Expenses:					
Research and development	$ 241	$ 4,306	$ 354	$ 2,981	$ 7,528
Research and development costs paid to Amgen	—	553	—	—	553
In-process research and development acquired from Amgen	3,018	—	—	—	3,018
General and administrative	834	3,756	932	4,096	8,686
Total expense	4,093	8,615	1,286	7,077	19,785
Loss from operations	(4,093)	(8,615)	(1,286)	(7,077)	(19,785)
Interest income	—	12	2	6	18
Loss before provision for income taxes	(4,093)	(8,603)	(1,284)	(7,071)	(19,767)
Provision (benefit) for income taxes	17	170	14	(22)	165
Net loss incurred in the development stage	$ (4,110)	$ (8,773)	$(1,298)	$(7,049)	$ (19,932)
Other comprehensive loss, net of tax					
Unrealized losses on investments	—	—	—	(11)	(11)
Other comprehensive loss	—	—	—	(11)	(11)
Comprehensive loss incurred in the development stage	$ (4,110)	$ (8,773)	$(1,298)	$(7,060)	$ (19,943)

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013	Three months ended March 31, (unaudited) 2013	2014
	(in thousands, except share and per share information)			
Basic and diluted net loss per common share	$ (5.60)	$ (9.08)	$ (1.56)	$ (5.58)
Weighted-average common shares outstanding used to compute basic and diluted net loss per common share	733,294	965,825	830,073	1,263,316
Pro forma net loss per common share(1)		$ (1.28)		$ (0.52)
Weighted-average common shares outstanding used to compute pro forma net loss per share		6,870,743		13,528,873

(1) See Note 2 to our combined and consolidated financial statements for an explanation of the calculations of pro forma net loss per common share.

	As of March 31, 2014 (unaudited)		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(3)
	(in thousands)		
Consolidated Balance Sheets Data:			
Cash and cash equivalents	$ 39,754	$ 40,053	$ 107,613
Short-term available-for-sale investments	22,277	22,277	22,277
Working capital	59,503	59,802	127,362
Total assets	62,866	63,165	130,168
Convertible preferred stock	74,572	—	—
Accumulated deficit	(19,932)	(22,725)	(22,725)
Total stockholders' (deficit) equity	(14,704)	60,172	127,175

(1) The pro forma column reflects the automatic conversion of all outstanding shares of our preferred stock into 12,298,515 shares of our common stock upon the closing of this offering, the vesting of 63,076 shares of restricted common stock that will vest upon the closing of this offering, giving effect to our recapitalization and the repayment of notes receivable from a stockholder.

(2) The pro forma as adjusted column further reflects the sale of 5,000,000 shares of our common stock in this offering at an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses.

(3) A $1.00 increase (decrease) in the assumed initial public offering price of $15.00 per share would increase (decrease) the amount of cash and cash equivalents, working capital, total assets and total stockholders' equity by approximately $4.7 million, assuming the number of shares offered, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions. Similarly, each increase (decrease) of 1,000,000 shares in the number of shares of our common stock offered would increase (decrease) the amount of cash and cash equivalents, working capital, total assets and total stockholders' equity by approximately $14.0 million, assuming that the assumed initial public offering price remains the same, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable. The pro forma as adjusted information discussed above is illustrative only and will be adjusted based on the actual initial public offering price and the other terms of this offering determined at pricing.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the following risks and all of the other information contained in this prospectus, including our combined and consolidated financial statements and related notes, before investing in our common stock. While we believe that the risks and uncertainties described below are the material risks currently facing us, additional risks that we do not yet know of or that we currently think are immaterial may also arise and materially affect our business. If any of the following risks materialize, our business, financial condition and results of operations could be materially and adversely affected. In that case, the trading price of our common stock could decline, and you may lose some or all of your investment.

Risks Related to Our Financial Results and Capital Needs

We have incurred substantial losses since our inception and anticipate that we will continue to incur substantial and increasing losses for the foreseeable future.

We are a clinical-stage biopharmaceutical company. Investment in biopharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that a product candidate will fail to prove effective, gain regulatory approval or become commercially viable. We do not have any products approved by regulatory authorities and have not generated any revenues from product sales to date, and have incurred significant research, development and other expenses related to our ongoing operations and expect to continue to incur such expenses. As a result, we have not been profitable and have incurred significant operating losses in every reporting period since our inception. For the year ended December 31, 2013 and three months ended March 31, 2014, we reported a net loss of $8.8 million and $7.0 million, respectively, and we had an accumulated deficit of $19.9 million at March 31, 2014.

We do not expect to generate revenues for many years, if at all. We expect to continue to incur significant expenses and operating losses for the foreseeable future. We anticipate these losses to increase as we continue to research, develop and seek regulatory approvals for our product candidates and any additional product candidates we may acquire, and potentially begin to commercialize product candidates that may achieve regulatory approval. We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenues. If any of our product candidates fail in clinical trials or do not gain regulatory approval, or if approved, fail to achieve market acceptance, we may never become profitable. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods. We anticipate that our expenses will increase in the future as we continue to invest in research and development of our existing product candidates, investigate and potentially acquire new product candidates and expand our manufacturing and commercialization activities.

We have a limited operating history, which may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

Our company was formed in August 2012. Our operations to date have been limited to organizing and staffing our company, acquiring product and technology rights and conducting product development activities for our product candidates. We have not yet demonstrated our ability to successfully complete any Phase 2 or Phase 3 clinical trials, obtain regulatory approval, manufacture a commercial scale product or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful commercialization for any of our product candidates. Consequently, any predictions about our future success, performance or viability may not be as accurate as they could be if we had a longer operating history or approved products on the market.

In addition, as a young business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will need to transition at some point from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition. We expect our financial condition and operating results to continue to fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, you should not rely upon the results of any quarterly or annual periods as indications of future operating performance.

We currently have no source of revenues. We may never generate revenues or achieve profitability.

To date, we have not generated any revenues from product sales or otherwise. Our ability to generate revenues from product sales and achieve profitability will depend on our ability to commercialize products, including any of our current product candidates, and other product candidates that we may develop, in-license or acquire in the future. Even if we are able to successfully achieve regulatory approval for these product candidates, we do not know when we will generate revenues, if at all. Our ability to generate revenues also depends on a number of additional factors, including our ability to:

- successfully complete development activities, including the necessary clinical trials;
- complete and submit biologics license applications, or BLAs, to the FDA and obtain US regulatory approval for indications for which there is a commercial market;
- complete and submit applications to, and obtain regulatory approval from, foreign regulatory authorities in Europe, Asia and other jurisdictions;
- obtain coverage and adequate reimbursement from third parties, including government and private payors;
- set a commercially viable price for our products;
- establish and maintain supply and manufacturing relationships with reliable third parties and ensure adequate, legally compliant manufacturing of bulk drug substances and drug products to maintain that supply;
- obtain commercial quantities of our products at acceptable cost levels;
- achieve market acceptance of our products, if any;
- attract, hire and retain qualified personnel;
- protect our rights in our intellectual property portfolio;
- develop a commercial organization capable of sales, marketing and distribution for any products we intend to sell ourselves in the markets in which we choose to commercialize on our own; and
- find suitable distribution partners to help us market, sell and distribute our approved products in other markets.

In addition, because of the numerous risks and uncertainties associated with product development, including that our product candidates may not advance through development or achieve the endpoints of applicable clinical trials, we are unable to predict the timing or amount of increased expenses, or when or if we will be able to achieve or maintain profitability. Even if we are able to complete the development and regulatory process for any product candidates, we anticipate incurring significant costs to commercialize these products.

Even if we are able to generate revenues from the sale of our products, we may not become profitable and may need to obtain additional funding to continue operations. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and may be forced to reduce our operations.

We will require substantial additional financing to achieve our goals, and a failure to obtain this necessary capital when needed could force us to delay, limit, reduce or terminate our product development or commercialization efforts.

As of March 31, 2014, our cash and cash equivalents and short-term investments were $62.0 million. We expect to expend substantial resources for the foreseeable future continuing clinical development and manufacturing of PINTA 745, preclinical and clinical development and manufacturing of STM 434 and advancing and expanding our preclinical research pipeline. These expenditures will include costs associated with research and development, potentially acquiring new product candidates, conducting preclinical studies and clinical trials, potentially obtaining regulatory approvals and manufacturing products, as well as marketing and selling products approved for sale, if any. Under the terms of our license agreements with Amgen, we are obligated to make additional milestone payments to Amgen of up to $86.0 million upon the achievement of certain development and regulatory approval milestones. In addition, other unanticipated costs may arise. Because the design and outcome of our planned and anticipated clinical trials is highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of our product candidates.

Our future capital requirements depend on many factors, including:

- the scope, progress, results and costs of researching and developing our other product candidates, and conducting preclinical studies and clinical trials;
- the timing of, and the costs involved in, obtaining regulatory approvals for our other product candidates if clinical trials are successful;
- the cost of commercialization activities for our product candidates, if any of these product candidates is approved for sale, including marketing, sales and distribution costs;
- the cost of manufacturing our product candidates for clinical trials in preparation for regulatory approval and in preparation for commercialization;
- our ability to establish and maintain strategic licensing or other arrangements and the financial terms of such agreements;
- the costs involved in preparing, filing, prosecuting, maintaining, expanding, defending and enforcing patent claims, including litigation costs and the outcome of such litigation;
- the timing, receipt and amount of sales of, or royalties on, our future products, if any; and
- the emergence of competing technologies or other adverse market developments.

Based on our current operating plan, we believe that the net proceeds we receive from this offering, together with our existing cash and cash equivalents and short-term investments, will be sufficient to fund our projected operating requirements through the end of 2016. However, our operating plan may change as a result of many factors currently unknown to us, and we may need additional funds sooner than planned. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. We do not have any committed external source of funds. Additional funds may not be available when we need them on terms that are acceptable to us, or at all. If adequate funds are not available to us on a timely basis, we may be required to delay, limit, reduce or terminate preclinical studies, clinical trials or other development activities for one or more of our product candidates or delay, limit, reduce or terminate our establishment of sales and marketing capabilities or other activities that may be necessary to commercialize our product candidates.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our product candidates on unfavorable terms to us.

We may seek additional capital through a variety of means, including through private and public equity offerings and debt financings. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take certain actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds from third parties, we may have to relinquish valuable rights to our technologies or product candidates, or grant licenses on terms that are not favorable to us. If we are unable to raise additional funds through equity or debt financing when needed, we may be required to delay, limit, reduce or terminate our product development or commercialization efforts for our product candidates, or grant to others the rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

We have incurred substantial losses during our history and do not expect to become profitable in the near future and we may never achieve profitability. To the extent that we continue to generate taxable losses, unused losses will carry forward to offset future taxable income, if any, until such unused losses expire. At December 31, 2012 and 2013, we had federal and state net operating loss carryforwards of approximately $0.8 million and $7.2 million, respectively, which, if not utilized, begin to expire in various amounts beginning in the year 2032. Under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, if over a rolling three-year period, the cumulative change in our ownership exceeds 50% (as determined under applicable Treasury regulations), our ability to utilize our US federal net operating loss, or NOL, carryforwards and other pre-change tax attributes (such as research tax credits) to offset future taxable income or taxes may be limited. We have experienced at least one ownership change since inception and our utilization of NOL carryforwards will therefore be subject to annual limitation. Our ability to utilize our NOL carryforwards may be further limited as a result of subsequent ownership changes, including potential changes in connection with our proposed initial public offering. Similar rules may apply under state tax laws. Further, other provisions of the Code may limit our ability to utilize NOLs incurred before the recapitalization to offset income or gain realized after the recapitalization, unless such income or gain is realized by the same entity that originally incurred such NOLs. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited. We have not yet determined the amount of the cumulative change in our ownership resulting from this offering or any resulting tax loss limitations. Such limitations could result in the expiration of our carryforwards before they can be utilized and, if we are profitable, our future cash flows could be adversely affected due to our increased tax liability.

Risks Related to the Development of Our Product Candidates

We are very early in our development efforts and have only two product candidates in clinical development. All of our other product candidates are still in preclinical development. If we or our collaborators are unable to successfully develop and commercialize product candidates or experience significant delays in doing so, our business will be materially harmed.

We are very early in our development efforts and have only two product candidates, PINTA 745 and STM 434, in clinical development. All of our other product candidates are currently in preclinical development. We have invested substantially all of our efforts and financial resources in identifying and developing potential product candidates and conducting preclinical studies, clinical trials and manufacturing activities. Our ability to generate revenues, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of

our product candidates. The success of our product candidates will depend on several factors, including the following:

- completion of preclinical studies and clinical trials with positive results;
- receipt of regulatory approvals from applicable authorities;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for our product candidates;
- making arrangements with third-party manufacturers for, or establishing, commercial manufacturing capabilities;
- manufacturing products at an acceptable cost;
- launching commercial sales of our product candidates, if and when approved, whether alone or in collaboration with others;
- acceptance of the product candidates, if and when approved, by patients, the medical community and third-party payors;
- effectively competing with other therapies;
- obtaining and maintaining coverage and adequate reimbursement by third-party payors, including government payors, for our product candidates;
- protecting our rights in our intellectual property portfolio;
- maintaining a continued acceptable safety profile of the products following approval; and
- maintaining and growing an organization of scientists and business people who can develop and commercialize our products and technology.

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

Our future success is dependent on the regulatory approval of our two lead product candidates.

We do not have any products that have gained regulatory approval. Currently, our only clinical-stage product candidates are PINTA 745, which is in a Phase 2 clinical trial, and STM 434, for which we expect to commence a Phase 1 study in the second half of 2014. Our business is substantially dependent on our ability to obtain regulatory approval for, and, if approved, to successfully commercialize our product candidates in a timely manner. We cannot commercialize product candidates in the United States without first obtaining regulatory approval for the product from the FDA; similarly, we cannot commercialize product candidates outside of the United States without obtaining regulatory approval from comparable foreign regulatory authorities. Before obtaining regulatory approvals for the commercial sale of any product candidate for a target indication, we must demonstrate with substantial evidence gathered in preclinical and clinical studies, generally including two well-controlled Phase 3 trials, that the product candidate is safe and effective for use for that target indication and that the manufacturing facilities, processes and controls are adequate with respect to such product candidate.

The time required to obtain approval by the FDA and comparable foreign regulatory authorities is unpredictable but typically takes many years following the commencement of preclinical studies and clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any product candidate and it is possible that none of our existing product candidates or any future product candidates will ever obtain regulatory approval.

Our product candidates could fail to receive regulatory approval from the FDA or a comparable foreign regulatory authority for many reasons, including:

- disagreement with the design or implementation of our clinical trials;
- failure to demonstrate that a product candidate is safe and effective for its proposed indication;
- failure of clinical trials to meet the level of statistical significance required for approval;
- failure to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- disagreement with our interpretation of data from preclinical studies or clinical trials;
- the insufficiency of data collected from clinical trials of our product candidates to support the submission and filing of a BLA or other submission or to obtain regulatory approval;
- failure to obtain approval of the manufacturing processes or facilities of third-party manufacturers with whom we contract for clinical and commercial supplies; or
- changes in the approval policies or regulations that render our preclinical and clinical data insufficient for approval.

The FDA or a comparable foreign regulatory authority may require more information, including additional preclinical or clinical data to support approval, which may delay or prevent approval and our commercialization plans, or we may decide to abandon the development program. If we were to obtain approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request (including failing to approve the most commercially promising indications), may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate.

Even if a product candidate were to successfully obtain approval from the FDA and comparable foreign regulatory authorities, any approval might contain significant limitations related to use restrictions for specified age groups, warnings, precautions or contraindications, or may be subject to burdensome post-approval study or risk management requirements. If we are unable to obtain regulatory approval for one of our product candidates in one or more jurisdictions, or any approval contains significant limitations, we may not be able to obtain sufficient funding to continue the development of that product or generate revenues attributable to that product candidate. Also, any regulatory approval of our current or future product candidates, once obtained, may be withdrawn.

The results of preclinical testing or earlier clinical studies are not necessarily predictive of future results, and PINTA 745 and STM 434, and any other product candidate we advance into clinical studies or trials, may not have favorable results in later clinical studies or trials or receive regulatory approval.

Success in preclinical studies and early clinical trials does not ensure that later clinical trials will generate adequate data to demonstrate the efficacy and safety of an investigational drug. A number of companies in the pharmaceutical and biotechnology industries, including those with greater resources and experience than us, have suffered significant setbacks in clinical trials, even after seeing promising results in earlier preclinical studies or clinical trials. Despite the results reported in earlier preclinical studies or clinical trials for our product candidates, we do not know whether the clinical trials we may conduct will demonstrate adequate efficacy and safety to result in regulatory approval to market PINTA 745 or STM 434 or any of our other product candidates in any particular jurisdiction. If later-stage clinical trials do not produce favorable results, our ability to achieve regulatory approval for any of our product candidates may be adversely impacted. Even if we believe that we have adequate data

to support an application for regulatory approval to market any of our product candidates, the FDA or other regulatory authorities may not agree and may require that we conduct additional clinical trials.

Clinical drug development involves a lengthy and expensive process with an uncertain outcome.

Clinical testing is expensive, can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and early clinical trials.

We may experience delays in our ongoing or future clinical studies or trials and we do not know whether planned clinical studies or trials will begin or enroll subjects on time, will need to be redesigned or will be completed on schedule, if at all. There can be no assurance that the FDA will not put clinical studies or trials of any of our product candidates on clinical hold in the future. Clinical studies or trials may be delayed, suspended or prematurely terminated for a variety of reasons, such as:

- delay or failure in reaching agreement with the FDA or a comparable foreign regulatory authority on a trial design that we are able to execute;
- delay or failure in obtaining authorization to commence a trial or inability to comply with conditions imposed by a regulatory authority regarding the scope or design of a clinical study;
- delay or failure in reaching agreement on acceptable terms with prospective contract research organizations, or CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- delay or failure in obtaining institutional review board, or IRB, approval or the approval of other reviewing entities, including comparable foreign regulatory authorities, to conduct a clinical trial at each site;
- withdrawal of clinical trial sites from our clinical trials or the ineligibility of a site to participate in our clinical trials;
- delay or failure in recruiting and enrolling suitable subjects to participate in a trial;
- delay or failure in subjects completing a trial or returning for post-treatment follow-up;
- clinical sites and investigators deviating from trial protocol, failing to conduct the trial in accordance with regulatory requirements, or dropping out of a trial;
- inability to identify and maintain a sufficient number of trial sites, many of which may already be engaged in other clinical trial programs, including some that may be for the same indication;
- failure of our third-party clinical trial managers to satisfy their contractual duties, meet expected deadlines or return trustworthy data;
- delay or failure in adding new clinical trial sites;
- ambiguous or negative interim results or results that are inconsistent with earlier results;
- feedback from the FDA, the IRB, data safety monitoring boards, or a comparable foreign regulatory authority, or results from earlier stage or concurrent preclinical and clinical studies, that might require modification to the protocol for the trial;
- a decision by the FDA, the IRB, a comparable foreign regulatory authority, or us, or a recommendation by a data safety monitoring board or comparable foreign regulatory authority, to suspend or terminate clinical trials at any time for safety issues or for any other reason;
- unacceptable risk-benefit profile, unforeseen safety issues or adverse side effects;

- failure to demonstrate a benefit from using a drug;
- difficulties in manufacturing or obtaining from third parties sufficient quantities of a product candidate for use in clinical studies or trials;
- lack of adequate funding to continue the clinical study or trial, including the incurrence of unforeseen costs due to enrollment delays, requirements to conduct additional clinical studies or increased expenses associated with the services of our CROs and other third parties; or
- changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical study or trial.

Patient enrollment, a significant factor in the timing of clinical studies or trials, is affected by many factors including the size and nature of the patient population, the severity of the disease under investigation, the proximity of subjects to clinical sites, the patient referral practices of physicians, the eligibility criteria for the trial, the design of the clinical trial, ability to obtain and maintain patient consents, risk that enrolled subjects will drop out before completion, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages and risks of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating. We may not be able to initiate or continue clinical studies for STM 434 and clinical trials for PINTA 745 or any future product candidates if we are unable to locate and enroll a sufficient number of eligible participants in these studies or trials as required by the FDA or other regulatory authorities. Even if we are able to enroll a sufficient number of patients in our clinical studies or trials, if the pace of enrollment is slower than we expect, the development costs for our product candidates may increase and the completion of our studies may be delayed or our studies could become too expensive to complete. We rely on CROs, other vendors and clinical study or trial sites to ensure the proper and timely conduct of our clinical trials, and while we have agreements governing their committed activities, we have limited influence over their actual performance.

If we experience delays in the completion or termination of any clinical trial of our product candidates, the commercial prospects of our product candidates will be harmed, and our ability to generate product revenues from any of these product candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product candidate development and approval process and jeopardize our ability to commence product sales and generate revenues. Any delays in completing our clinical trials for our current product candidates may also decrease the period of exclusivity in our corresponding product candidate license from Amgen. In addition, many of the factors that could cause a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

Our product candidates, the methods used to deliver them or their dosage levels may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial profile of an approved label or result in significant negative consequences following any regulatory approval.

Undesirable side effects caused by our product candidates, their delivery methods or dosage levels could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign regulatory authority. As a result of safety or toxicity issues that we may experience in our clinical studies or trials in the future, we may not receive approval to market any product candidates, which could prevent us from ever generating revenues or achieving profitability. Results of our studies or trials could reveal an unacceptably high severity and prevalence of side effects. In such an event, our studies or trials could be suspended or terminated and the FDA or comparable foreign regulatory authorities could order us to cease further development of or deny approval of our product candidates

for any or all targeted indications. The drug-related side effects could affect patient recruitment or the ability of enrolled subjects to complete the trial or result in potential product liability claims. Any of these occurrences may have a material adverse effect on our business, results of operations, financial condition, cash flows and future prospects.

Additionally, if any of our product candidates receives regulatory approval, and we or others later identify undesirable side effects caused by such product, a number of potentially significant negative consequences could result, including that:

- we may be forced to suspend marketing of such product;
- regulatory authorities may withdraw their approvals of such product;
- regulatory authorities may require additional warnings on the label that could diminish the usage or otherwise limit the commercial success of such products;
- we may be required to conduct post-market studies;
- we may be required to change the way the product is administered;
- we could be sued and held liable for harm caused to subjects or patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved.

We may not be able to obtain orphan drug exclusivity for our product candidates.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States. If our Phase 1 clinical study of STM 434 is successful, we intend to apply for orphan drug status for STM 434 for ovarian cancer.

Generally, if a product with an orphan drug designation subsequently receives the first regulatory approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the European Medicines Agency, or EMA, or the FDA from approving another marketing application for the same drug for that time period. The applicable period is seven years in the United States and ten years in Europe. The European exclusivity period can be reduced to six years if a drug no longer meets the criteria for orphan drug designation or if the drug is sufficiently profitable so that market exclusivity is no longer justified. Orphan drug exclusivity may be lost if the FDA or EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition.

Even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs can be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve a new drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care.

Failure to obtain regulatory approval in international jurisdictions would prevent our product candidates from being marketed abroad.

In addition to regulations in the United States, to market and sell our products in the European Union, many Asian countries and other jurisdictions, we must obtain separate regulatory approvals and

comply with numerous and varying regulatory requirements. We have had no significant interactions with foreign regulatory authorities to date. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. Clinical trials accepted in one country may not be accepted by regulatory authorities in other countries. In addition, many countries outside the United States require that a product be approved for reimbursement before it can be approved for sale in that country. We may not be able to obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. We may not be able to file for regulatory approvals and may not receive necessary approvals to commercialize our products in any market. If we are unable to obtain approval of any of our product candidates by regulatory authorities in the European Union, Asia or elsewhere, the commercial prospects of that product candidate may be significantly diminished, our business prospects could decline and this could materially adversely affect our business, results of operations and financial condition.

Even if our product candidates receive regulatory approval, they may still face future development and regulatory difficulties.

Even if we obtain regulatory approval for a product candidate, it would be subject to ongoing requirements by the FDA and comparable foreign regulatory authorities governing the manufacture, quality control, further development, labeling, packaging, storage, distribution, adverse event reporting, safety surveillance, import, export, advertising, promotion, recordkeeping and reporting of safety and other post-market information. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance by our contract manufacturing organizations, or CMOs, and CROs for any post-approval clinical trials that we conduct. For example, if labeling is ultimately approved for PINTA 745, it will likely include restrictions on use due to the specific patient population and manner of use in which the product candidate was evaluated and the safety and efficacy data obtained in those evaluations. In addition, PINTA 745 may be required to include a boxed warning, or “black box,” regarding PINTA 745 being teratogenic, or causing of fetal or embryotic malformations, in animal studies. The safety profile of any product will continue to be closely monitored by the FDA and comparable foreign regulatory authorities after approval. If the FDA or comparable foreign regulatory authorities become aware of new safety information after approval of any of our product candidates, they may require labeling changes or establishment of a risk evaluation and mitigation strategy, impose significant restrictions on a product’s indicated uses or marketing or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance.

In addition, manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with current good manufacturing practices, or cGMP, current Good Clinical Practices, or GCP, and other regulations. If we or a regulatory agency discover previously unknown problems with a product, such as 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, the manufacturing facility or us, including requiring recall or withdrawal of the product from the market or suspension of manufacturing. If we, our product candidates or the manufacturing facilities for our product candidates fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning letters or untitled letters;
- mandate modifications to promotional materials or require us to provide corrective information to healthcare practitioners;

- require us to enter into a consent decree, which can include imposition of various fines, reimbursements for inspection costs, required due dates for specific actions and penalties for noncompliance;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical studies;
- refuse to approve pending applications or supplements to applications filed by us;
- suspend or impose restrictions on operations, including costly new manufacturing requirements; or
- seize or detain products, refuse to permit the import or export of products, or require us to initiate a product recall.

The occurrence of any event or penalty described above may inhibit our ability to commercialize our products and generate revenues.

Advertising and promotion of any product candidate that obtains approval in the United States will be heavily scrutinized by the FDA, the Department of Justice, or the DOJ, the Office of Inspector General of the Department of Health and Human Services, or HHS, state attorneys general, members of Congress and the public. Additionally, advertising and promotion of any product candidate that obtains approval outside of the United States will be heavily scrutinized by comparable foreign regulatory authorities. For example, in the event PINTA 745 obtains regulatory approval, we believe these authorities will closely monitor the use of this product candidate to determine whether it is being used impermissibly as a muscle-builder by athletes and others. Violations, including actual or alleged promotion of our products for unapproved or off-label uses, are subject to enforcement letters, inquiries and investigations, and civil and criminal sanctions by the FDA. Any actual or alleged failure to comply with labeling and promotion requirements may have a negative impact on our business.

In the United States, engaging in impermissible promotion of our products for off-label uses can also subject us to false claims litigation under federal and state statutes, which can lead to civil and criminal penalties and fines and agreements that would materially restrict the manner in which we promote or distribute our drug products. These false claims statutes include the federal False Claims Act, which allows any individual to bring a lawsuit against a pharmaceutical company on behalf of the federal government alleging submission of false or fraudulent claims, or causing to present such false or fraudulent claims, for payment by a federal program such as Medicare or Medicaid. If the government prevails in the lawsuit, the individual will share in any fines or settlement funds. Since 2004, these False Claims Act lawsuits against pharmaceutical companies have increased significantly in volume and breadth, leading to several substantial civil and criminal settlements based on certain sales practices promoting off-label drug uses. This growth in litigation has increased the risk that a pharmaceutical company will have to defend a false claim action, pay settlement fines or restitution, agree to comply with burdensome reporting and compliance obligations, and be excluded from the Medicare, Medicaid and other federal and state healthcare programs. If we do not lawfully promote our approved products, we may become subject to such litigation and, if we are not successful in defending against such actions, those actions could compromise our ability to become profitable.

We are subject to a multitude of manufacturing risks, any of which could substantially increase our costs and limit supply of our product candidates.

Concurrent with the license of our existing product candidates, we acquired manufacturing process know-how and certain intermediates, as well as certain supplies intended for clinical use, from Amgen. We are in the process of outsourcing the manufacture of additional drug substance and drug product for our preclinical and clinical studies using the know-how and supplies we received from

Amgen. Our CMOs will need to conduct significant development work to prepare each of our product candidates for studies, trials and commercial readiness.

Additionally, the process of manufacturing our product candidates is complex, highly regulated and subject to several risks, including but not limited to:

- the process of manufacturing our product candidates is extremely susceptible to product loss due to contamination, equipment failure or improper installation or operation of equipment, or vendor or operator error. Even minor deviations from normal manufacturing processes for any of our product candidates could result in reduced production yields, product defects, and other supply disruptions. Product defects can also occur unexpectedly. For example, we recently encountered a small number of cracked vials in certain STM 434 drug product lots. If microbial, viral, or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination; and
- the manufacturing facilities in which our product candidates are made could be adversely affected by earthquakes and other natural disasters, equipment failures, labor shortages, power failures, and numerous other factors.

Any adverse developments affecting manufacturing operations for our product candidates may result in shipment delays, inventory shortages, lot failures, withdrawals or recalls or other interruptions in the supply of our drug substance and drug product. We may also have to write off inventory, incur other charges and expenses for supply of drug product that fails to meet specifications, undertake costly remediation efforts, or seek more costly manufacturing alternatives. Inability to meet the demand for our products could damage our reputation and the reputation of our products among physicians, healthcare payors, patients or the medical community, including major operators of dialysis and cancer clinics which could adversely affect our ability to operate our business and our results of operations.

We may not successfully identify, acquire, develop or commercialize new potential product candidates.

Part of our business strategy is to expand our product candidate pipeline by identifying and validating new product candidates, which we may develop ourselves, in-license or otherwise acquire from others. In addition, in the event that our existing product candidates do not receive regulatory approval or are not successfully commercialized, then the success of our business will depend on our ability to expand our product pipeline through in-licensing or other acquisitions. We may be unable to identify relevant product candidates. If we do identify such product candidates, we may be unable to reach acceptable terms with any third party from which we desire to in-license or acquire them.

We may form strategic alliances in the future, and we may not realize the benefits of such alliances.

We may form strategic alliances, create joint ventures or collaborations or enter into licensing arrangements with third parties that we believe will complement or augment our existing business. These relationships, or those like them, may require us to incur non-recurring and other charges, increase our near- and long-term expenditures, issue securities that dilute our existing stockholders or disrupt our management and business. In addition, we face significant competition in seeking appropriate strategic alliances and the negotiation process is time-consuming and complex. Moreover, we may not be successful in our efforts to establish a strategic alliance or other alternative arrangements for any future product candidates and programs because our research and development pipeline may be insufficient, our product candidates and programs may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view our product candidates and programs as having the requisite potential to demonstrate safety and efficacy. If we license

products or acquire businesses, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture. We cannot be certain that, following a strategic transaction or license, we will achieve the revenues or specific net income that justifies such transaction. Any delays in entering into new strategic alliances agreements related to our product candidates could also delay the development and commercialization of our product candidates and reduce their competitiveness even if they reach the market.

Risks Related to Our Dependence on Third Parties

We rely on third parties to conduct our preclinical and clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, or if we lose any of our CROs, we may not be able to obtain regulatory approval for or commercialize our product candidates on a timely basis, if at all.

We have relied upon and plan to continue to rely upon third-party CROs and contractors to monitor and manage data for our ongoing preclinical and clinical programs. We rely on these parties for the execution of our preclinical and clinical trials, and we control only some aspects of their activities. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol and legal, regulatory and scientific standards, and our reliance on the CROs does not relieve us of our regulatory responsibilities. We also rely on third parties to assist in conducting our preclinical studies in accordance with Good Laboratory Practices, or GLP, and the Animal Welfare Act requirements. We and our CROs are required to comply with federal regulations and GCP, which are international standards meant to protect the rights and health of patients that are enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities for all of our products in clinical development. Regulatory authorities enforce GCP through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of our CROs fail to comply with applicable GCP, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our regulatory applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP requirements. In addition, our clinical trials must be conducted with product produced under cGMP requirements. We are also required to register ongoing clinical trials and post the results of completed clinical trials on a government-sponsored database, clinicaltrials.gov, within a specified timeframe. Failure to comply with these regulations may require us to repeat preclinical and clinical trials, which would delay the regulatory approval process and result in adverse publicity.

Our CROs are not our employees, and except for remedies available to us under our agreements with such CROs, we cannot control whether or not they devote sufficient time and resources, including experienced staff, to our ongoing clinical, nonclinical and preclinical programs. They may also have relationships with other entities, some of which may be our competitors. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. For example, there was an error in the randomization of patients and inventory distribution to our clinical sites for our Phase 2 clinical trial for PINTA 745, resulting in the unblinding of the initial six patients and a restart of the trial. CRO or contractor errors could cause our results of operations and the commercial prospects for our product candidates to be harmed, our costs to increase and our ability to generate revenues to be delayed.

Our internal capacity for clinical trial execution and management is limited and therefore we have relied on third parties. Outsourcing these functions involves risk that third parties may not perform to

our standards, may not produce results in a timely manner or may fail to perform at all. In addition, the use of third-party service providers requires us to disclose our proprietary information to these parties, which could increase the risk that this information will be misappropriated. We currently have a small number of employees, which limits the internal resources we have available to identify and monitor our third-party providers. To the extent we are unable to identify and successfully manage the performance of third-party service providers in the future, our business may be adversely affected. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

Our CROs have the right to terminate their agreements with us in the event of an uncured material breach. In addition, some of our CROs have an ability to terminate their respective agreements with us if it can be reasonably demonstrated that the safety of the subjects participating in our clinical trials warrants such termination, if we make a general assignment for the benefit of our creditors or if we are liquidated. Identifying, qualifying and managing performance of third-party service providers can be difficult, time consuming and cause delays in our development programs. In addition, there is a natural transition period when a new CRO commences work and the new CRO may not provide the same type or level of services as the original provider. If any of our relationships with our third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs or to do so on commercially reasonable terms.

We have no experience manufacturing our product candidates on a clinical or commercial scale and have no manufacturing facility. We are dependent on third parties for the manufacturing of our product candidates and our supply chain, and if we experience problems with any of these third parties, the manufacturing of our product candidates could be delayed.

We do not own or operate facilities for the manufacturing of our product candidates. We currently have no plans to build our own clinical or commercial scale manufacturing capabilities. We currently rely on single source CMOs for the production of our product candidates and on single source suppliers of some of the materials incorporated in our product candidates. To meet our projected needs for clinical supplies to support our activities through regulatory approval and commercial manufacturing, the CMOs with whom we currently work will need to increase the scale of production and, for PINTA 745 and STM 434, we will need to demonstrate comparability of the material produced by these CMOs to the material that was previously produced by Amgen. We may need to identify additional CMOs for continued production of supply for our product candidates. We have not yet identified alternate suppliers in the event the current CMOs that we utilize are unable to scale production, or if we otherwise experience any problems with them. Manufacturing biologic drugs is complicated and tightly regulated by the FDA and comparable regulatory authorities around the world, and although alternative third-party suppliers with the necessary manufacturing and regulatory expertise and facilities exist, it could be expensive and take a significant amount of time to arrange for alternative suppliers, transfer manufacturing procedures to these alternative suppliers, and demonstrate comparability of material produced by such new suppliers. New manufacturers of any product would be required to qualify under applicable regulatory requirements. These manufacturers may not be able to manufacture our compounds at costs, or in quantities, or in a timely manner necessary to complete development of our product candidates or make commercially successful products. If we are unable to arrange for alternative third-party manufacturing sources, or to do so on commercially reasonable terms or in a timely manner, we may not be able to complete development of our product candidates, or market or distribute them. In addition, should the FDA not agree with our physical quality specifications and comparability assessments for these materials, further clinical development of our product candidate would be substantially delayed and we would incur substantial additional expenses.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates ourselves, including reliance on the third party for regulatory compliance and quality assurance, the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control, including a failure to synthesize and manufacture our product candidates or any products we may eventually commercialize in accordance with our specifications, misappropriation of our proprietary information, including our trade secrets and know-how, and the possibility of termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or damaging to us. In addition, the FDA and other regulatory authorities require that our product candidates and any products that we may eventually commercialize be manufactured according to cGMP and similar foreign standards. These requirements include, among other things, quality control, quality assurance and the maintenance of records and documentation. The FDA or similar foreign regulatory agencies may also implement new standards at any time, or change their interpretations and enforcement of existing standards for manufacture, packaging or testing of products. We have little control over our manufacturers' compliance with these regulations and standards. Any failure by our third-party manufacturers to comply with cGMP or failure to scale up manufacturing processes, including any failure to deliver sufficient quantities of product candidates in a timely manner, could lead to a delay in, or failure to obtain, regulatory approval of any of our product candidates. In addition, such failure could be the basis for the FDA to issue a warning letter, withdraw approvals for product candidates previously granted to us, or take other regulatory or legal action, including recall or seizure of outside supplies of the product candidate, total or partial suspension of production, suspension of ongoing clinical trials, refusal to approve pending applications or supplemental applications, detention or product, refusal to permit the import or export of products, injunction or imposing civil and criminal penalties.

Any significant disruption in our supplier relationships could harm our business. Any significant delay in the supply of a product candidate or its key materials for an ongoing clinical study could considerably delay completion of our clinical studies, product testing and potential regulatory approval of our product candidates. If our manufacturers or we are unable to purchase these key materials after regulatory approval has been obtained for our product candidates, the commercial launch of our product candidates would be delayed or there would be a shortage in supply, which would impair our ability to generate revenues from the sale of our product candidates.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain sufficient intellectual property protection for our product candidates, or if the scope of the intellectual property protection is not sufficiently broad, our ability to commercialize our product candidates successfully and to compete effectively may be adversely affected.

We rely upon a combination of patents, trade secrets and confidentiality agreements to protect the intellectual property related to our technology and product candidates. For our two most advanced product candidates, PINTA 745 and STM 434, we own or license a number of issued patents and pending patent applications covering the product candidates' compositions of matter and methods of use. For PINTA 745, the expected expiration dates range from 2026 to 2034 for US patents and patent applications, if issued, and from 2023 to 2034 for patents and patent applications, if issued, in jurisdictions outside the United States, exclusive of possible patent term extensions. For STM 434, the expected expiration dates range from 2027 through 2035 for US patents and patent applications, if issued, and from 2026 through 2035 for patents and patent applications, if issued, in jurisdictions outside the United States, exclusive of possible patent term extensions. If we do not adequately protect our intellectual property, competitors may be able to use our technologies and erode or negate any competitive advantage we may have, which could harm our business and ability to achieve profitability. The patentability of inventions and the validity, enforceability and scope of patents in the biotechnology field is generally uncertain because it involves complex legal, scientific and factual considerations, and

it has in recent years been the subject of significant litigation. Moreover, the standards applied by the US Patent and Trademark Office, or USPTO, and non-US patent offices in granting patents are not always applied uniformly or predictably. For example, there is no uniform worldwide policy regarding patentable subject matter or the scope of claims allowable in biotechnology patents.

Consequently, the patent applications that we own or in-license may fail to result in issued patents with claims that cover our product candidates in the United States or in other countries for many reasons. There is no assurance that all potentially relevant prior art relating to our patents and patent applications has been found. We may be unaware of prior art that could be used to invalidate an issued patent or prevent our pending patent applications from issuing as patents. There also may be prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim of one of our patents or patent applications, which may, nonetheless, ultimately be found to affect the validity or enforceability of such claim.

Even if patents have issued or do successfully issue from patent applications, and even if such patents cover our product candidates, third parties may challenge the validity, enforceability or scope thereof, which may result in such patents being narrowed, invalidated or held to be unenforceable. No assurance can be given that if challenged, our patents would be declared by a court to be valid or enforceable. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property, provide exclusivity for our product candidates or prevent others from designing around our claims. The possibility exists that others will develop products on an independent basis which have the same effect as our product candidates and which do not infringe our patents or other intellectual property rights, or that others will design around the claims of patents that we have had issued that cover our product candidates. If the breadth or strength of protection provided by the patents and patent applications we hold, license or pursue with respect to our product candidates is threatened, it could threaten our ability to commercialize our product candidates. In addition, the USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Any of these outcomes could have an adverse impact on our business.

If patent applications that we hold or in-license with respect to our technology or product candidates fail to issue, if their breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for our product candidates, it could dissuade companies from collaborating with us. We have recently filed several patent applications covering our product candidates. We cannot offer any assurances about which, if any, patents will be issued with respect to these pending patent applications, the breadth of any such patents, whether any issued patents will be found invalid and unenforceable or will be threatened by third parties. Any successful challenge to these patents or any other patents owned by or exclusively licensed to us could deprive us of rights necessary for the successful commercialization of any product candidate that we or our collaborators may develop. Because patent applications in the United States and most other countries are confidential for a period of time after filing, and some remain so until issued, we cannot be certain that we were the first to file any patent application related to a product candidate. Furthermore, if third parties have filed such patent applications, an interference proceeding in the United States can be initiated by the USPTO or a third party to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. Similarly, we could become involved in derivation proceedings before the USPTO to determine inventorship with respect to our patent applications. We may also become involved in similar opposition proceedings in the European Patent Office or counterpart offices in other jurisdictions regarding our intellectual property rights. In addition, patents have a limited lifespan. In the United States, the natural expiration of a patent generally occurs 20 years after it is filed. Although various extensions may be available if certain conditions are met, the life of a patent and the protection

it affords is limited. If we encounter delays in our clinical trials or in obtaining regulatory approvals, the period of time during which we could exclusively market any of our product candidates under patent protection, if approved, could be reduced. Even if patents covering our product candidates are obtained, once the patent life has expired for a product, we may be vulnerable to competition from biosimilar products. Any loss of patent protection could have a material adverse impact on our business. We may be unable to prevent competitors from entering the market with a product that is similar or identical to our product candidates, which could harm our business and ability to achieve profitability.

If we are sued for infringing the intellectual property rights of third parties, such litigation could be costly and time-consuming and could prevent or delay our development and commercialization efforts.

Our commercial success depends, in part, on us and our collaborators not infringing the patents and proprietary rights of third parties. There is a substantial amount of litigation, both within and outside the United States, involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries, including patent infringement lawsuits, interference or derivation proceedings, oppositions, *inter partes* reexamination and review proceedings before the USPTO and correspondingnon-US patent offices. Numerous US and non-US issued patents and pending patent applications owned by third parties exist in the fields in which we are developing and may develop our product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may be subject to claims of infringement of third parties' patent rights as it may not always be clear to industry participants, including us, which patents cover various types of products or methods of use. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform or predictable.

Third parties may assert infringement claims against us based on existing or future intellectual property rights, alleging that we are employing their proprietary technology without authorization. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacturing of our product candidates that we failed to identify. For example, applications filed before November 29, 2000, and certain applications filed after that date that will not be filed outside the United States, remain confidential until issued as patents. Except for the preceding exceptions, patent applications in the United States and elsewhere are generally published only after a waiting period of approximately 18 months after the earliest filing date. Therefore, patent applications covering our product candidates could have been filed by others without our knowledge. In addition, pending patent applications that have been published, including some of which we are aware, could be later amended in a manner that could cover our product candidates or their use or manufacture. We may analyze patents or patent applications of our competitors that we believe are relevant to our activities and believe that we are free to operate in relation to any of our product candidates, but our competitors may obtain issued claims, including in patents we consider to be unrelated, which may block our efforts or potentially result in any of our product candidates or our activities infringing such claims. If we are sued for patent infringement, we would need to demonstrate that our product candidates, products and methods either do not infringe the patent claims of the relevant patent or that the patent claims are invalid, and we may not be able to do this. Proving that a patent is invalid is difficult. For example, in the United States, proving invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted, which could have a material adverse effect on us. If any issued third-party patents were held by a court of competent jurisdiction to cover aspects of our materials, formulations, methods of manufacture or methods for treatment, we could be forced, including by court order, to cease developing, manufacturing or commercializing the relevant product candidate until such patent expired. Alternatively, we may be required to obtain a license from such third party in order to use the infringing

technology and to continue developing, manufacturing or marketing the infringing product candidate. However, we may not be able to obtain any required license on commercially reasonably terms, or at all. Even if we were able to obtain a license, the rights may be nonexclusive, which could result in our competitors gaining access to the same intellectual property licensed to us. Ultimately, we could be prevented from commercializing a product candidate, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent infringement claims, we are unable to enter into licenses on acceptable terms. This could harm our business significantly.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize one or more of our product candidates. Defending against claims of patent infringement or misappropriation of trade secrets could be costly and time consuming, regardless of the outcome. Thus, even if we were to ultimately prevail, or to settle at an early stage, such litigation could burden us with substantial unanticipated costs. In addition, litigation or threatened litigation could result in significant demands on the time and attention of our management team, distracting them from the pursuit of other company business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent, or to redesign our infringing product candidates which may be impossible or require substantial time and monetary expenditure. We may also elect to enter into license agreements in order to settle patent infringement claims prior to litigation, and any such license agreement may require us to pay royalties and other fees that could be significant.

We may face claims that we misappropriated the confidential information or trade secrets of a third party. If we are found to have misappropriated a third party's trade secrets, we may be prevented from further using such trade secrets, which could limit our ability to develop our product candidates. We are not aware of any material threatened or pending claims related to these matters, but in the future litigation may be necessary to defend against such claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management. During the course of any patent or other intellectual property litigation, there could be public announcements of the results of hearings, rulings on motions, and other interim proceedings in the litigation. If securities analysts or investors regard these announcements as negative, the perceived value of our product candidates, programs or intellectual property could be diminished. Accordingly, the market price of our common stock may decline.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting, enforcing and defending patents on all of our product candidates in all countries throughout the world would be prohibitively expensive. Our or our licensors' intellectual property rights in certain countries outside the United States may be less extensive than those in the United States. In addition, the laws of certain foreign countries do not protect intellectual property rights to the same extent as laws in the United States. Consequently, we and our licensors may not be able to prevent third parties from practicing our and our licensors' inventions in countries outside the United States, or from selling or importing infringing products made using our and our licensors' inventions in and into the United States or other jurisdictions. Competitors may use our and our licensors' technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we and our licensors have patent protection but where enforcement is not as strong as that in the United States. These infringing products may compete with our product candidates in jurisdictions where we or our licensors have no issued patents and our patent claims and other intellectual property rights may not be effective or sufficient to prevent them from so competing. Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The

legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us and our licensors to stop the infringement of our and our licensors' patents or marketing of competing products in violation of our and our licensors' proprietary rights generally. Proceedings to enforce our and our licensors' patent rights in foreign jurisdictions could result in substantial costs and divert our attention from other aspects of our business, could put our and our licensors' patents at risk of being invalidated or interpreted narrowly, could put our and our licensors' patent applications at risk of not issuing, and could provoke third parties to assert claims against us or our licensors. We or our licensors may not prevail in any lawsuits that we or our licensors initiate, and even if we or our licensors are successful the damages or other remedies awarded, if any, may not be commercially meaningful.

We have in-licensed a significant portion of our intellectual property from Amgen. If we breach any of our license agreements with Amgen, we could lose the ability to continue the development and potential commercialization of one or more of our product candidates.

We hold rights under a number of license agreements with Amgen that are important to our business. Our discovery and development platform is built, in part, around patents exclusively in-licensed from Amgen. These agreements generally grant us the exclusive (except as to the licenses to Amgen know-how, which are non-exclusive and limited as to their field of use), worldwide (except with regard to PINTA 745 in Japan, which was previously licensed to Takeda Pharmaceutical Company Limited) license to research, develop, improve, make, use, offer for sale, sell, import, export or otherwise exploit several classes of novel compounds, including PINTA 745 and STM 434. Under our existing license agreements, we are subject to various obligations, including diligence obligations with respect to development and commercialization activities, payment obligations upon achievement of certain milestones and royalties on product sales, as well as other material obligations. If there is any conflict, dispute, disagreement or issue of non-performance between us and Amgen regarding our rights or obligations under the license agreements, including any such conflict, dispute or disagreement arising from our failure to satisfy diligence or payment obligations under any such agreement, we may be liable to pay damages and Amgen may have a right to terminate the affected license. The loss of any or all of our license agreements with Amgen could materially adversely affect our ability to proceed to utilize the affected intellectual property in our drug discovery and development efforts, and our ability to enter into future collaboration, licensing and/or marketing agreements for one or more affected product candidates. The risks described elsewhere pertaining to our patents and other intellectual property rights also apply to the intellectual property rights that we license, and any failure by us or our licensors to obtain, maintain and enforce these rights could have a material adverse effect on our business.

We may become involved in lawsuits to protect or enforce our intellectual property, which could be expensive, time-consuming and unsuccessful and have a material adverse effect on the success of our business and on our stock price.

Third parties may infringe our patents, the patents of our licensors, or misappropriate or otherwise violate our or our licensors' intellectual property rights. Our and our licensors' patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications, and then only to the extent the issued claims cover the technology. In the future, we or our licensors may elect to initiate legal proceedings to enforce or defend our or our licensors' intellectual property rights, to protect our or our licensors' trade secrets or to determine the validity or scope of intellectual property rights we own or control. Any claims that we assert against perceived infringers could also provoke these parties to assert counterclaims against us alleging that we infringe their intellectual property rights. In addition, third parties may initiate legal proceedings against us or our licensors to challenge the validity or scope of intellectual property rights we own or control. The proceedings can be expensive and time-consuming. Many of our or our

licensors' adversaries in these proceedings may have the ability to dedicate substantially greater resources to prosecuting these legal actions than we or our licensors can. Accordingly, despite our or our licensors' efforts, we or our licensors may not be able to prevent third parties from infringing upon or misappropriating intellectual property rights we own or control, particularly in countries where the laws may not protect our rights as fully as in the United States. Litigation could result in substantial costs and diversion of management resources, which could harm our business and financial results. In addition, in an infringement proceeding, a court may decide that a patent owned by or licensed to us is invalid or unenforceable, in whole or in part, or may refuse to stop the other party from using the technology at issue on the grounds that our or our licensors' patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of our or our licensors' patents at risk of being invalidated, held unenforceable or interpreted narrowly.

Interference or derivation proceedings provoked by third parties, brought by us or our licensors or collaborators, or brought by the USPTO or any non-US patent authority may be necessary to determine the priority of inventions or other matters of inventorship with respect to our patents or patent applications. We may also become involved in other proceedings, such as re-examination or opposition proceedings, *inter partes* review or other preissuance or post-grant proceedings in the USPTO or its foreign counterparts relating to our intellectual property or the intellectual property rights of others. An unfavorable outcome in any such proceeding could require us or our licensors to cease using the related technology and commercializing our product candidates, or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us or our licensors a license on commercially reasonable terms if any license is offered at all. Even if we or our licensors obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us or our licensors. In addition, if the breadth or strength of protection provided by our or our licensors' patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates. Even if we successfully defend such litigation or proceeding, we may incur substantial costs and it may distract our management and other employees. We could be found liable for monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent.

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

Changes in patent law could diminish the value of patents in general, thereby impairing our ability to protect our product candidates.

As is the case with other biotechnology and pharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involves both technological and legal complexity, and obtaining and enforcing biopharmaceutical patents is costly, time-consuming, and inherently uncertain. The Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our and our licensors' ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents once obtained. Depending on future decisions by the US Congress, or Congress, the federal courts and the USPTO, the laws and regulations governing patents could change in unpredictable ways that may weaken our and our licensors' ability to obtain new patents or to enforce existing patents and patents we and our licensors or collaborators may obtain in the future.

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our and our licensors' patent applications and the enforcement or defense of our or our licensors' issued patents. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to US patent law. These include provisions that affect the way patent applications are prosecuted and may also affect patent litigation. The USPTO recently developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first to file provisions, only became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our or our licensors' patent applications and the enforcement or defense of our or our licensors' issued patents, all of which could have a material adverse effect on our business and financial condition.

If we are unable to protect the confidentiality of our trade secrets and other proprietary information, the value of our technology could be materially adversely affected and our business could be harmed.

In addition to seeking the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable or that we elect not to patent, processes for which patents are difficult to enforce, and other elements of our technology, discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, thus eroding our competitive position in the market. However, trade secrets can be difficult to protect. We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements and invention assignment agreements with our employees, consultants, and outside scientific advisors, contractors and collaborators. These agreements are designed to protect our proprietary information. Although we use reasonable efforts to protect our trade secrets, our employees, consultants, contractors, or outside scientific advisors might intentionally or inadvertently disclose our trade secrets or confidential, proprietary information to competitors. In addition, competitors may otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. If any of our confidential proprietary information were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position.

Enforcing a claim that a third party illegally obtained and is using any of our trade secrets is expensive and time consuming, and the outcome is unpredictable. In addition, the laws of certain foreign countries do not protect proprietary rights such as trade secrets to the same extent or in the same manner as the laws of the United States. Misappropriation or unauthorized disclosure of our trade secrets to third parties could impair our competitive advantage in the market and could materially adversely affect our business, results of operations and financial condition.

Risks Related to Commercialization of Our Product Candidates

Our commercial success depends upon attaining significant market acceptance of our product candidates, if approved, among physicians, patients, healthcare payors and major operators of dialysis and cancer clinics.

Even if we obtain regulatory approval for any of our product candidates that we may develop or acquire in the future, the product may not gain market acceptance among physicians, healthcare payors, patients or the medical community, including major operators of dialysis and cancer clinics.

Market acceptance of any of our product candidates for which we receive approval depends on a number of factors, including:

- the efficacy and safety of such product candidates as demonstrated in clinical trials;
- the clinical indications for which the product candidate is approved;
- acceptance by physicians, major operators of cancer and dialysis clinics and patients of the drug as a safe and effective treatment;
- the potential and perceived advantages of product candidates over alternative treatments;
- the safety of product candidates seen in a broader patient group, including its use outside the approved indications;
- any restrictions on use together with other medications;
- the prevalence and severity of any side effects;
- product labeling or product insert requirements of the FDA or other regulatory authorities;
- the timing of market introduction of our products as well as competitive products;
- the cost of treatment in relation to alternative treatments;
- the availability of coverage and adequate reimbursement and pricing by third-party payors and government authorities;
- relative convenience and ease of administration; and
- the effectiveness of our sales and marketing efforts and those of our collaborators.

If any of our product candidates are approved but fail to achieve market acceptance among physicians, patients, healthcare payors or major operators of dialysis and cancer clinics, we will not be able to generate significant revenues, which would compromise our ability to become profitable. In particular, the dialysis industry is dominated by two companies, DaVita Healthcare Partners and Fresenius. In the event PINTA 745 fails to be accepted by either of these companies, our ability to generate revenues from PINTA 745 and become profitable would be adversely affected.

Even if we are able to commercialize our product candidates, the products may not receive coverage and adequate reimbursement from third-party payors in the United States and in other countries in which we seek to commercialize our products, which could harm our business.

Our ability to commercialize any product successfully will depend, in part, on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, determine which medications they will cover and establish reimbursement levels. A primary trend in the healthcare industry is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Third-party payors may also seek additional clinical evidence, beyond the data required to obtain regulatory approval, demonstrating clinical benefits and value in specific patient populations before covering our products for those patients. We cannot be sure that coverage and adequate reimbursement will be available for any product that we commercialize and, if reimbursement is available, what the level of reimbursement will be. Coverage and reimbursement may impact the demand for, or the price of, any product candidate for which we obtain regulatory approval. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize any product candidate for which we obtain regulatory approval.

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

Recently enacted and future legislation, including potentially unfavorable pricing regulations or other healthcare reform initiatives, may increase the difficulty and cost for us to obtain regulatory approval of and commercialize our product candidates and affect the prices we may obtain.

The regulations that govern, among other things, regulatory approvals, coverage, pricing and reimbursement for new drug products vary widely from country to country. In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay regulatory approval of our product candidates, restrict or regulate post-approval activities and affect our ability to successfully sell any product candidates for which we obtain regulatory approval.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or Medicare Modernization Act, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for physician-administered drugs. In particular, all Medicare payments for dialysis treatments to ESRD patients are now made under a single bundled payment rate that provides a fixed payment rate to encompass all goods and services provided during the dialysis treatment, including pharmaceuticals that were historically separately reimbursed to the dialysis providers, irrespective of the level of pharmaceuticals administered or additional services performed. Most lab services that used to be paid directly to laboratories are also included in the bundled payment. Unless we are able to secure an exemption, PINTA 745 may be subject to the bundled payment system. In recent years, Congress has considered further reductions in Medicare reimbursement for drugs administered by physicians. The Center for Medicare and Medicaid Services, or CMS, the agency that runs the Medicare program, also has the authority to revise reimbursement rates, including under the bundled payment system, and to implement coverage restrictions for some drugs. Cost reduction initiatives and changes in coverage implemented through legislation or regulation could decrease utilization of and reimbursement for any approved products, which in turn would affect the price we can receive for those products. While the Medicare Modernization Act and Medicare regulations apply only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from federal legislation or regulation may result in a similar reduction in payments from private payors.

In March 2010, President Obama signed into law the Patient Protection and Affordable Care Act and the Health Care and Education Affordability Reconciliation Act of 2010, or the Affordable Care Act,

a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on pharmaceutical and medical device manufacturers and impose additional health policy reforms. The Affordable Care Act expanded manufacturers' rebate liability to include covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations, increased the minimum rebate due for innovator drugs from 15.1% of average manufacturer price, or AMP, to 23.1% of AMP, and capped the total rebate amount for innovator drugs at 100% of AMP. The Affordable Care Act and subsequent legislation also changed the definition of AMP. Furthermore, the Affordable Care Act imposes a significant annual, nondeductible fee on companies that manufacture or import certain branded prescription drug products. Substantial new provisions affecting compliance have also been enacted, which may affect our business practices with healthcare practitioners, and a significant number of provisions are not yet, or have only recently become, effective. Although it is too early to determine the effect of the Affordable Care Act, it appears likely to continue the pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. More recently, in August 2011, the President signed into law the Budget Control Act of 2011, which, among other things, creates the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, starting in 2013. In January 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. In March 2013, the President signed an executive order implementing sequestration, and in April 2013, the 2% Medicare reductions went into effect. These new laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on our customers and accordingly, our financial operations. Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the regulatory approvals of our product candidates, if any, may be.

In the United States, the European Union and other potentially significant markets for our product candidates, government authorities and third-party payors are increasingly attempting to limit or regulate the price of medical products and services, particularly for new and innovative products and therapies, which has resulted in lower average selling prices. Furthermore, the increased emphasis on managed healthcare in the United States and on country and regional pricing and reimbursement controls in the European Union will put additional pressure on product pricing, reimbursement and usage, which may adversely affect our future product sales and results of operations. These pressures can arise from rules and practices of managed care groups, judicial decisions and governmental laws and regulations related to Medicare, Medicaid and healthcare reform, pharmaceutical reimbursement policies and pricing in general.

Price controls may be imposed in foreign markets, which may adversely affect our future profitability.

In some countries, particularly member states of the European Union, the pricing of prescription drugs is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after receipt of regulatory approval for a product. In addition,

there can be considerable pressure by governments and other stakeholders on prices and reimbursement levels, including as part of cost containment measures. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various European Union member states and parallel distribution, or arbitrage between low-priced and high-priced member states, can further reduce prices. In some countries, we or our collaborators may be required to conduct a clinical trial or other studies that compare the cost-effectiveness of our product candidates to other available therapies in order to obtain or maintain reimbursement or pricing approval. Publication of discounts by third-party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be adversely affected.

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

We face competition from numerous pharmaceutical and biotechnology enterprises, as well as from academic institutions, government agencies and private and public research institutions for our current and future product candidates. Our commercial opportunities will be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer side effects or are less expensive than any products that we may develop. Competition could result in reduced sales and pricing pressure on our product candidates, if approved, which in turn would reduce our ability to generate meaningful revenues and have a negative impact on our results of operations. In addition, significant delays in the development of our product candidates could allow our competitors to bring products to market before us and impair any ability to commercialize our product candidates.

Products are currently marketed or used off-label for the muscle wasting-related indications for which the products in our pipeline are being developed, and a number of companies are or may be developing new treatments for muscle wasting indications. These products, as well as promotional efforts by competitors and clinical trial results of competitive products, could significantly diminish any ability to market and sell PINTA 745 and other product candidates focused on muscle wasting-related indications. Today's treatment for protein-energy wasting and cancer cachexia often involves the administration of readily available nutritional supplements and appetite stimulants including, in some jurisdictions, medical marijuana. In addition, there are two commercially available steroids, nandrolone and oxandrolone, that are sometimes prescribed off-label for the treatment of weight loss in cancer patients. A number of companies are developing drug candidates for muscle wasting applications, including: Eli Lilly & Co., which is conducting Phase 1 clinical studies and Phase 2 clinical trials for LY2495655, and Pfizer Inc., which is conducting Phase 1 clinical studies for PF-06252616, both of which are myostatin antibodies, to evaluate their ability to increase and improve muscle mass in various patient populations; Novartis Corporation, which is conducting Phase 1 clinical studies and Phase 2 clinical trials for BYM338, an ActR2B antibody, to evaluate its ability to build muscle in patients with various muscle-wasting conditions; Ligand Pharmaceuticals, which is developing LGD-4033, a selective androgen receptor modulator, for muscle wasting; Regeneron Pharmaceuticals, Inc., which is developing REGN1033, a myostatin antibody, in collaboration with Sanofi-Aventis; and GTx, Inc., which is developing ostarine, a selective androgen receptor modulator for cachexia.

There are numerous approved products and therapies for ovarian cancer, and a number of companies are or may be developing new treatments for ovarian cancer and other solid tumors. These therapies, as well as promotional efforts by competitors and clinical trial results of competitive products, could significantly diminish any ability to market and sell STM 434. Approved drug therapies for ovarian cancer include chemotherapy with platinum compounds such as cisplatin or carboplatin and taxane compounds such as paclitaxel or docetaxel, and hormone therapies including gosarelin, luprolide,

tamoxifen, letrozole, anostrazole and exemestane. A number of companies are developing drug candidates for ovarian cancer and other solid tumors, including Genentech/Roche, which is developing bevacizumab (Avastin) and other potential drug therapies.

Many of these approved drugs and therapies for muscle wasting and ovarian cancer are well-established and are widely accepted by physicians, patients and third-party payors. Some of these drugs are branded and subject to patent protection, and other drugs and nutritional supplements are available on a generic basis. Insurers and other third-party payors may encourage the use of generic products or specific branded products. We expect that if either PINTA 745 or STM 434 is approved, it will be priced at a significant premium over competitive generic products. This pricing premium may make it difficult for us to differentiate these products from currently approved or commonly used therapies and impede adoption of our product, which may adversely impact our business. In addition, many companies are developing new therapeutics, and we cannot predict what the standard of care will become as our products continue in clinical development.

Many of our competitors or potential competitors have significantly greater established presence in the market, financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do, and as a result may have a competitive advantage over us. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies and technology licenses complementary to our programs or advantageous to our business.

As a result of these factors, these competitors may obtain regulatory approval of their products before we are able to obtain patent protection or other intellectual property rights, which will limit our ability to develop or commercialize our product candidates. Our competitors may also develop drugs that are safer, more effective, more widely used and cheaper than ours, and may also be more successful than us in manufacturing and marketing their products. These appreciable advantages could render our product candidates obsolete or non-competitive before we can recover the expenses of development and commercialization.

Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller and other early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific, management and commercial personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may be unable to generate any revenue.

We do not currently have an organization for the sale, marketing and distribution of pharmaceutical products and the cost of establishing and maintaining such an organization may exceed the cost-effectiveness of doing so. In order to market any products that may be approved by the FDA and comparable foreign regulatory authorities, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. There are significant risks involved in building and managing a sales organization, including our ability to hire, retain and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel and effectively manage a geographically dispersed sales and

marketing team. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the commercialization of these products. If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, we may not be able to generate product revenues and may not become profitable. We will be competing with many companies that currently have extensive and well-funded sales and marketing operations. Without an internal commercial organization or the support of a third party to perform sales and marketing functions, we may be unable to compete successfully against these more established companies. If we are not successful in commercializing our current or future product candidates either on our own or through collaborations with one or more third parties, our future product revenue will suffer and we would incur significant additional losses.

We will need to grow the size of our organization, and we may experience difficulties in managing this growth.

As of June 30, 2014, we had 14 employees. As our development and commercialization plans and strategies develop, or as a result of any future acquisitions, we will need additional managerial, operational, manufacturing, sales, marketing, financial and other resources. Our management, personnel and systems currently in place may not be adequate to support this future growth. Future growth would impose significant added responsibilities on members of management, including:

- managing our clinical studies and trials effectively;
- identifying, recruiting, maintaining, motivating and integrating additional employees;
- managing our internal development efforts effectively while complying with our contractual obligations to licensors, licensees, contractors and other third parties;
- improving our managerial, development, operational and finance systems; and
- expanding our facilities.

As our operations expand, we will need to manage additional relationships with various strategic partners, suppliers and other third parties. Our future financial performance and our ability to commercialize our product candidates and to compete effectively will depend, in part, on our ability to manage any future growth effectively. To that end, we must be able to manage our development efforts and clinical studies and trials effectively and hire, train and integrate additional management, research and development, manufacturing, administrative and sales and marketing personnel. Our failure to accomplish any of these tasks could prevent us from successfully growing our company.

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

We are highly dependent upon our personnel, including Isaac E. Ciechanover, M.D., our President, Chief Executive Officer and founder, and Christopher Haqq, Ph.D., M.D., our Chief Medical Officer. Our employment agreements with Drs. Ciechanover and Haqq are at-will and do not prevent them from terminating their employment with us at any time. The loss of the services of either of them could impede the achievement of our research, development and commercialization objectives.

Our future growth and success depend on our ability to recruit, retain, manage and motivate our employees. The loss of any member of our senior management team or the inability to hire or retain experienced management personnel could compromise our ability to execute our business plan and harm our operating results. Because of the specialized scientific and managerial nature of our business, we rely heavily on our ability to attract and retain qualified scientific, technical and managerial personnel. The competition for qualified personnel in the pharmaceutical field is intense and as a result, we may be unable to continue to attract and retain qualified personnel necessary for the development of our business.

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

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

- the federal healthcare Anti-Kickback Statute will constrain our marketing practices, educational programs, pricing policies, and relationships with healthcare providers or other entities, by prohibiting, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under a federal healthcare program such as Medicare and Medicaid;
- federal civil and criminal false claims laws and civil monetary penalty laws impose criminal and civil penalties, including through civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, including the Medicare and Medicaid programs, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also created federal criminal laws that prohibit knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statements in connection with the delivery of or payment for healthcare benefits, items or services;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal physician sunshine requirements under the Affordable Care Act requires manufacturers of drugs, devices, biologics and medical supplies to report annually to HHS information related to payments and other transfers of value to physicians, other healthcare providers, and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members and applicable group purchasing organizations; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers; some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government and may require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and state and foreign laws govern the privacy and security of health

information in specified circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

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

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could cause significant liability for us and harm our reputation.

We are exposed to the risk of employee fraud or other misconduct, including intentional failures to comply with FDA regulations or similar regulations of comparable foreign regulatory authorities, provide accurate information to the FDA or comparable foreign regulatory authorities, comply with manufacturing standards we have established, comply with federal and state healthcare fraud and abuse laws and regulations and similar laws and regulations established and enforced by comparable foreign regulatory authorities, report financial information or data accurately or disclose unauthorized activities to us. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and results of operations, including the imposition of significant fines or other sanctions.

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

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face an even greater risk if we commercially sell any products that we may develop. Product liability claims may be brought against us by subjects enrolled in our clinical trials, patients, healthcare providers or others using, administering or selling our products. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or products that we may develop;
- termination of clinical trial sites or entire trial programs;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend the related litigation;

- substantial monetary awards to trial subjects or patients;
- loss of revenue;
- diversion of management and scientific resources from our business operations; and
- the inability to commercialize any products that we may develop.

We currently hold $5.0 million in product liability insurance coverage in the aggregate, which we believe is customary for similarly situated companies and adequate to provide us with insurance coverage for foreseeable risks, but which may not be adequate to cover all liabilities that we may incur. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise. We intend to expand our insurance coverage for products to include the sale of commercial products if we obtain regulatory approval for our product candidates in development, but we may be unable to obtain commercially reasonable product liability insurance for any products that receive regulatory approval. Large judgments have been awarded in class action lawsuits based on drugs that had unanticipated side effects. A successful product liability claim or series of claims brought against us, particularly if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business.

If we and our third-party manufacturers fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

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

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials with a policy limit that we believe is customary for similarly situated companies and adequate to provide us with insurance coverage for foreseeable risks, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological or hazardous materials.

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

Our business and operations would suffer in the event of computer system failures or security breaches.

Our internal computer systems, and those of our CROs and other business vendors on which we rely, are vulnerable to damage from computer viruses, unauthorized access, natural disasters, fire, terrorism, war and telecommunication and electrical failures. We exercise little or no control over these third parties, which increases our vulnerability to problems with their systems. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our drug

development programs. For example, the loss of clinical trial data from completed, ongoing or planned clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, the further development of our product candidates could be delayed and our business could be otherwise adversely affected.

Business disruptions could seriously harm our future revenues and financial condition and increase our costs and expenses.

Our operations could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics and other natural or manmade disasters or business interruptions, for which we are predominantly self-insured. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. We rely on third-party manufacturers to produce our product candidates. Our ability to obtain clinical supplies of product candidates could be disrupted, if the operations of these suppliers are affected by a man-made or natural disaster or other business interruption. The ultimate impact on us, our significant suppliers and our general infrastructure is unknown, but our operations and financial condition could suffer in the event of a major earthquake, fire or other natural disaster.

Risks Related to This Offering and Ownership of Our Common Stock

We do not know whether an active, liquid and orderly trading market will develop for our common stock or what the market price of our common stock will be and as a result it may be difficult for you to sell your shares of our common stock.

Prior to this offering there has been no market for shares of our common stock. An active trading market for our shares may never develop or be sustained following this offering. The initial public offering price for our common stock will be determined through negotiations with the underwriters, and the negotiated price may not be indicative of the market price of our common stock after this offering. The market value of our common stock may decrease from the initial public offering price. As a result of these and other factors, you may be unable to resell your shares of our common stock at or above the initial public offering price. The lack of an active market may impair your ability to sell your shares at the time you wish to sell them or at a price that you consider reasonable. The lack of an active market may also reduce the fair market value of your shares. Further, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into collaborations or acquire companies or products by using our shares of common stock as consideration. The market price of our stock may be volatile, and you could lose all or part of your investment.

The trading price of our common stock following this offering is likely to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. In addition to the factors discussed in this “Risk Factors” section and elsewhere in this prospectus, these factors include:

- the success of competitive products or technologies;
- regulatory actions with respect to our product candidates or products or our competitors’ product candidates or products;
- actual or anticipated changes in our growth rate relative to our competitors;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- results of clinical trials of our product candidates or those of our competitors;

- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- the results of our efforts to in-license or acquire additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- inconsistent trading volume levels of our shares;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or our other stockholders;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors; and
- general economic, industry and market conditions.

In addition, the stock market in general, and pharmaceutical and biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. The realization of any of these risks or any of a broad range of other risks, including those described in these “Risk Factors,” could have a dramatic and material adverse impact on the market price of our common stock.

We may be subject to securities litigation, which is expensive and could divert management attention.

The market price of our common stock may be volatile, and in the past companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management’s attention from other business concerns, which could seriously harm our business.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Prior to this offering, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates together beneficially owned over 98% of our voting stock and, upon consummation of this offering, that same group will together hold approximately 72.9% of our outstanding voting stock, not including any additional shares they may purchase in this offering, assuming no exercise of the underwriters’ over-allotment option, no exercise of outstanding options, after giving effect to the issuance of shares in this offering. These stockholders may be able to determine the outcome of all matters requiring stockholder approval. For example, these stockholders

may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders. The interests of this group of stockholders may not always coincide with your interests or the interests of other stockholders and they may act in a manner that advances their best interests and not necessarily those of other stockholders, including seeking a premium value for their common stock, and might affect the prevailing market price for our common stock.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.

The initial public offering price is substantially higher than the net tangible book value per share of our common stock. Investors purchasing common stock in this offering will pay a price per share that substantially exceeds the book value of our tangible assets after subtracting our liabilities. As a result, investors purchasing common stock in this offering will incur immediate dilution of $8.19 per share, based on an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover of this prospectus. Further, investors purchasing common stock in this offering will contribute approximately 50% of the total amount invested by stockholders since our inception, but will own, as a result of such investment, only approximately 26% of the shares of common stock outstanding immediately following this offering.

The vesting and settlement of any of our outstanding RSUs will result in additional dilution. As a result of the dilution to investors purchasing shares in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of our liquidation. Further, because we may need to raise additional capital to fund our clinical development programs, we may in the future sell substantial amounts of common stock or securities convertible into or exchangeable for common stock. These future issuances of equity or equity-linked securities, together with the exercise of outstanding options and any additional shares issued in connection with acquisitions, if any, may result in further dilution to investors.

We are an "emerging growth company" and we intend to take advantage of reduced disclosure and governance requirements applicable to emerging growth companies, which could result in our common stock being less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and we intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We cannot predict if investors will find our common stock less attractive because we will rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We may take advantage of these reporting exemptions until we are no longer an emerging growth company, which in certain circumstances could be for up to five years. We will cease to be an "emerging growth company" upon the earliest of: (1) the last day of the fiscal year following the fifth anniversary of this offering, (2) the last day of the first fiscal year in which our annual gross revenues are $1 billion or more, (3) the date on which we have, during the previous rolling three-year period, issued more than $1 billion in non-convertible debt securities, and (4) the date on which we are deemed to be a "large accelerated filer" as defined in the Exchange Act.

Our status as an "emerging growth company" under the JOBS Act may make it more difficult to raise capital as and when we need it.

Because of the exemptions from various reporting requirements provided to us as an "emerging growth company" we may be less attractive to investors and it may be difficult for us to raise additional capital as and when we need it. Investors may be unable to compare our business with other companies in our industry if they believe that our financial accounting is not as transparent as other companies in our industry. If we are unable to raise additional capital as and when we need it, our financial condition and results of operations may be materially and adversely affected.

We will incur increased costs as a result of being a public company and our management expects to devote substantial time to public company compliance programs.

As a public company, we will incur significant legal, insurance, accounting and other expenses that we did not incur as a private company. In addition, our administrative staff will be required to perform additional tasks. For example, in anticipation of becoming a public company, we will need to adopt additional internal controls and disclosure controls and procedures and bear all of the internal and external costs of preparing and distributing periodic public reports in compliance with our obligations under the securities laws. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment will result in increased general and administrative expenses and may divert management's time and attention from product development activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to practice, regulatory authorities may initiate legal proceedings against us and our business may be harmed. In connection with this offering, we are increasing our directors' and officers' insurance coverage to a level that we believe is customary for similarly situated companies and adequate to provide us with insurance coverage for foreseeable risks, which will increase our insurance cost. In the future, it will be more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our board of directors, particularly to serve on our audit committee and compensation committee, and qualified executive officers.

In addition, in order to comply with the requirements of being a public company, we may need to undertake various actions, including implementing new internal controls and procedures and hiring new accounting or internal audit staff. The Sarbanes-Oxley Act requires that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are continuing to develop and refine our disclosure controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we file with the Securities and Exchange Commission, or SEC, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that information required to be disclosed in reports under the Exchange Act is accumulated and communicated to our principal executive and financial officers. Any failure to develop or maintain effective controls could adversely affect the results of periodic management evaluations. In the event that we are not able to demonstrate compliance with the Sarbanes-Oxley Act, that our internal control over financial reporting is perceived as inadequate, or that we are unable to produce timely or accurate financial statements, investors may lose confidence in our operating results and the price of our ordinary shares could decline. In addition, if we are unable to continue to meet these requirements, we may not be able to remain listed on The Nasdaq Global Market, or Nasdaq.

We are not currently required to comply with the SEC's rules that implement Section 404 of the Sarbanes-Oxley Act, and are therefore not yet required to make a formal assessment of the effectiveness of our internal control over financial reporting for that purpose. Upon becoming a public company, we will be required to comply with certain of these rules, which will require management to

certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of our internal control over financial reporting commencing with our second annual report. This assessment will need to include the disclosure of any material weaknesses in our internal control over financial reporting identified by our management or our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by Section 404. If we identify one or more material weaknesses, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statement.

Our independent registered public accounting firm will not be required to formally attest to the effectiveness of our internal control over financial reporting until the later of our second annual report or the first annual report required to be filed with the SEC following the date we are no longer an “emerging growth company” as defined in the JOBS Act. We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal controls in the future.

We have identified a material weakness in our internal control over financial reporting and may identify additional material weaknesses in the future that may cause us to fail to meet our reporting obligations or result in material misstatements of our financial statements. If we fail to remediate any material weaknesses or if we fail to establish and maintain effective control over financial reporting, our ability to accurately and timely report our financial results could be adversely affected.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with US generally accepted accounting principles. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of annual or interim financial statements will not be prevented or detected on a timely basis.

Prior to the completion of this offering, we have been a private company with limited accounting personnel and other resources to address our internal control over financial reporting. During the course of preparing for this offering, we determined that we had a material weakness in our internal control over financial reporting as of December 31, 2012 and 2013 relating to the design and operation of our closing and financial reporting processes.

For a discussion of our remediation plan and the actions that we have executed during 2014, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Internal Control over Financial Reporting.” The actions we have taken are subject to continued review, supported by confirmation and testing by management as well as audit committee oversight. While we have implemented a plan to remediate this weakness, we cannot assure you that we will be able to remediate this weakness, which could impair our ability to accurately and timely report our financial position, results of operations or cash flows. If we are unable to successfully remediate this material weakness, and if we are unable to produce accurate and timely financial statements, our stock price may be adversely affected and we may be unable to maintain compliance with applicable Nasdaq listing requirements.

Our failure to remediate the material weakness identified above or the identification of additional material weaknesses in the future, could adversely affect our ability to report financial information, including our filing of quarterly or annual reports with the SEC on a timely and accurate basis. Moreover, our failure to remediate the material weakness identified above or the identification of additional material weaknesses could prohibit us from producing timely and accurate financial statements, which may adversely affect our stock price and we may be unable to maintain compliance with Nasdaq listing requirements.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of potential gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. After this offering, we will have outstanding 19,403,128 shares of common stock based on the number of shares outstanding as of March 31, 2014. This includes the shares that we are selling in this offering, which may be resold in the public market immediately without restriction, unless purchased by our affiliates. Of the remaining shares, 14,403,128 shares of our common stock, will be restricted as a result of securities laws or lock-up agreements but will be able to be sold after the offering as described in the "Shares Eligible for Future Sale" section of this prospectus. Moreover, after this offering, holders of an aggregate of 14,133,898 shares of our common stock as of March 31, 2014 will have rights, subject to certain conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We also intend to register all shares of common stock that we may issue under our equity compensation plans. Once we register these shares, they can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates and the lock-up agreements described in the "Underwriting" section of this prospectus.

Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.

We expect that significant additional capital will be needed in the future to continue our planned operations. To raise capital, we may sell substantial amounts of common stock or securities convertible into or exchangeable for common stock. These future issuances of common stock or common stock-related securities, together with the exercise of outstanding options and any additional shares issued in connection with acquisitions, if any, may result in material dilution to our investors. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights, preferences and privileges senior to those of holders of our common stock, including shares of common stock sold in this offering.

Pursuant to our equity incentive plans, our compensation committee is authorized to grant equity-based incentive awards to our directors, executive officers and other employees and service providers,

including officers, employees and service providers of our subsidiaries. Future grants of RSUs, options and other equity awards and issuances of common stock under our equity incentive plans may have an adverse effect on the market price of our common stock.

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Although we currently intend to use the net proceeds from this offering in the manner described in "Use of Proceeds" elsewhere in this prospectus, our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the market price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value. If we do not invest the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause the price of our common stock to decline.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation, or certificate of incorporation, and amended and restated bylaws, or bylaws, that will become effective in connection with consummation of this offering, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders, or remove our current management. These include provisions that will:

- permit our board of directors to issue up to 20,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate;
- provide that all vacancies on our board of directors, including as a result of newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing, and also specify requirements as to the form and content of a stockholder's notice;
- not provide for cumulative voting rights, thereby allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election; and
- provide that special meetings of our stockholders may be called only by the board of directors or by such person or persons requested by a majority of the board of directors to call such meetings.

These provisions may frustrate 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, who are responsible for appointing the members of our management. Because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General

Corporation Law, which may discourage, delay or prevent someone from acquiring us or merging with us whether or not it is desired by or beneficial to our stockholders. Under Delaware law, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other things, the board of directors has approved the transaction. Any provision of our amended and restated certificate of incorporation or amended and restated bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

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

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts do not currently, and may never, publish research on our company. If no securities or industry analysts commence coverage of our company, the trading price for our stock would likely be negatively impacted. In the event securities or industry analysts initiate coverage, if one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS AND INDUSTRY DATA

This prospectus, including the sections titled "Prospectus Summary," "Risk Factors," "Use of Proceeds," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business," contains forward-looking statements. In some cases you can identify these statements by forward-looking words such as "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "could," "would," "project," "plan," "expect" or the negative or plural of these words or similar expressions. These forward-looking statements include, but are not limited to, statements concerning the following:

- our expectations regarding the timing of reporting results from our Phase 2 clinical trial of PINTA 745;
- our expectations regarding the timing of our Phase 1 clinical study of STM 434;
- the likelihood and timing of regulatory approvals for our product candidates;
- the potential market opportunities for commercializing our product candidates;
- our expectations regarding the potential market size and the size of the patient populations for our products candidates, if approved for commercial use;
- estimates of our expenses, capital requirements and need for additional financing;
- our ability to develop, acquire and advance product candidates into, and successfully complete, clinical studies and trials;
- the initiation, timing, progress and results of future preclinical studies and clinical trials and our research and development programs;
- the scope of protection we are able to obtain and maintain for our intellectual property rights covering our product candidates;
- our use of proceeds from this offering;
- our financial performance;
- developments and projections relating to our competitors and our industry; and
- our ability to sell or manufacture products at commercially reasonable values.

These statements are only current predictions and are subject to known and unknown risks, uncertainties and other factors that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from those anticipated by the forward-looking statements. We discuss many of these risks in this prospectus in greater detail under the heading "Risk Factors" and elsewhere in this prospectus. You should not rely upon forward-looking statements as predictions of future events. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risks and uncertainties.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Except as required by law, after the date of this prospectus, we are under no duty to update or revise any of the forward-looking statements, whether as a result of new information, future events or otherwise.

We obtained industry, market and competitive position data in this prospectus from our own internal estimates and research as well as from industry and general publications and research surveys and studies conducted by third parties. These data involve a number of assumptions and limitations, and you are cautioned not to give undue weight to such information or estimates.

USE OF PROCEEDS

We estimate that we will receive net proceeds from the sale of common stock of approximately $67.0 million, based upon an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses. If the underwriters' option to purchase additional shares of common stock is exercised in full, we estimate that we will receive net proceeds of approximately $77.5 million, after deducting estimated underwriting discounts and commissions and estimated offering expenses.

Each $1.00 increase (decrease) in the assumed initial public offering price of $15.00 per share would increase (decrease) the net proceeds to us from this offering by approximately $4.7 million, assuming the number of shares offered, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions. Similarly, each increase (decrease) of 1,000,000 shares in the number of shares of common stock offered would increase (decrease) the net proceeds to us from this offering by approximately $14.0 million, assuming that the assumed initial public offering price remains the same, and after deducting estimated underwriting discounts and commissions.

As of March 31, 2014, we had cash and cash equivalents and short-term investments of $62.0 million. We currently estimate that we will use the net proceeds from this offering, together with our existing cash and cash equivalents and short-term investments, as follows:

- approximately $38.8 million to fund the clinical development and manufacturing of PINTA 745, including the costs of our ongoing pilot Phase 2 clinical trial and our planned confirmatory Phase 2 clinical trial expected to take place thereafter;
- approximately $31.0 million to fund the clinical development and manufacturing of STM 434, including the costs of our initial Phase 1 clinical study, expected to take place through the first half of 2016;
- approximately $12.5 million to expand and advance our preclinical research pipeline; and
- the remainder for working capital and for other general corporate purposes, which includes funding the costs of operating as a public company and may include acquiring or licensing products, businesses or technologies, although we have no present commitments for any such acquisitions or licenses.

This expected use of our net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, the status of and results from preclinical and clinical trials, as well as any collaborations that we may enter into with third parties for our product candidates, and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds of this offering.

Based on our planned use of our net proceeds from this offering as described above, we estimate that such funds, together with our existing cash and cash equivalents and short-term investments as of March 31, 2014, will enable us to complete our planned confirmatory Phase 2 clinical trial of PINTA 745 and our initial Phase 1 clinical study of STM 434 and fund our operations and capital expenditure requirements until at least the end of 2016. Pending our use of our net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and US government securities.

DIVIDEND POLICY

We do not anticipate declaring or paying any cash dividends on our capital stock. Any future determination as to the declaration and payment of dividends, if any, will be at the discretion of our board of directors and will depend on then existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our cash and cash equivalents, short-term available-for-sale investments and our capitalization as of March 31, 2014:

- on an actual basis;
- on a pro forma basis, giving effect to the repayment of notes receivable from a stockholder that took place in June 2014, the vesting of 63,076 shares of restricted common stock and the automatic conversion of all outstanding shares of preferred stock as of March 31, 2014 into 12,298,515 shares of our common stock upon the closing of this offering and the filing and effectiveness of our amended and restated certificate of incorporation in Delaware; and
- on a pro forma as adjusted basis to reflect, in addition to the pro forma adjustments set forth above, the sale of 5,000,000 shares of common stock in this offering at an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses.

You should read the information in this table together with the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our combined and consolidated financial statements and related notes included elsewhere in this prospectus.

	As of March 31, 2014 (unaudited)		
	Actual	Pro Forma	Pro Forma As Adjusted[1]
	(in thousands, except share and per share data)		
Cash and cash equivalents	$ 39,754	$ 40,053	$ 107,613
Short-term available-for-sale investments	22,277	22,277	22,277
	$ 62,031	$ 62,330	$ 129,890
Convertible preferred stock:			
Series A convertible preferred stock	$ 19,909	$ —	$ —
Series A-1 convertible preferred stock	2,768	—	—
Series B convertible preferred stock	51,895	—	—
Stockholders’ equity:			
Common stock, $0.0001 par value, 1,302,835 shares issued and outstanding, actual; 13,664,426 shares issued and outstanding, pro forma; 18,664,426 shares issued and outstanding pro forma as adjusted	—	1	2
Additional paid-in capital	5,538	82,907	149,909
Notes receivable from stockholder	(299)	—	—
Accumulated other comprehensive loss	(11)	(11)	(11)
Accumulated deficit	(19,932)	(22,725)	(22,725)
Total stockholders’ deficit	(14,704)	60,172	127,175
Total capitalization	$ 59,868	$ 60,172	$ 127,175

(1) Each $1.00 increase (decrease) in the assumed initial public offering price of $15.00 per share would increase (decrease) each of cash and cash equivalents, additional paid-in capital, total stockholders’ equity and total capitalization by approximately $4.7 million, assuming the number of shares offered, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses. Similarly, each increase (decrease) of 1,000,000 shares in the number of shares of our common stock offered would increase (decrease) cash and cash equivalents, additional paid-in capital, total stockholders’ equity and total capitalization by approximately $14.0 million, assuming the assumed initial public offering price remains the same, and after deducting

estimated underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma as adjusted information discussed above is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing.

The pro forma outstanding share information in the table above is based on 13,664,426 shares of our common stock (including preferred stock on an as-converted basis and 63,076 shares of restricted common stock that will vest upon the closing of this offering) outstanding as of March 31, 2014, giving effect to our recapitalization, and excludes the following:

- 885,959 shares of common stock issuable upon settlement of RSUs outstanding as of March 31, 2014 pursuant to our 2012 Plans;
- 69,612 shares of common stock issuable upon settlement of RSUs issued or upon the exercise of options granted after March 31, 2014 under our 2014 Equity Incentive Plan, or 2014 Plan;
- 2,301,352 shares of common stock to be reserved for future issuance under our 2014 Plan, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan;
- 230,769 shares of common stock to be reserved for issuance under our ESPP, to be effective in connection with this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan; and
- 801,778 shares of restricted common stock, which remained subject to vesting as of March 31, 2014.

DILUTION

If you invest in our common stock, your interest will be diluted to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

Our historical net tangible deficit as of March 31, 2014 was approximately $14.7 million, or $11.29 per share of common stock. Our historical net tangible deficit is the amount of our total tangible assets less our liabilities and preferred stock that is not included within equity. Historical net tangible deficit per share is our historical net tangible deficit divided by 1,302,835 (the number of shares of common stock outstanding as of March 31, 2014). The pro forma net tangible book value of our common stock as of March 31, 2014, was $60.2 million, or $4.40 per share. Pro forma net tangible book value per share represents our total tangible assets less our total liabilities, divided by the number of outstanding shares of common stock, after giving effect to the automatic conversion of all outstanding shares of preferred stock as of March 31, 2014 into 12,298,515 shares of common stock and the vesting of 63,076 shares of restricted common stock upon the closing of this offering.

After giving effect to (i) the automatic conversion of all outstanding shares of preferred stock as of March 31, 2014 into 12,298,515 shares of common stock immediately prior to the closing of this offering and (ii) our receipt of the net proceeds from our sale of 5,000,000 shares of common stock at an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses, our pro forma as adjusted net tangible book value as of March 31, 2014 would have been approximately $127.2 million, or $6.81 per share. This represents an immediate increase in pro forma as adjusted net tangible book value of $2.41 per share to our existing stockholders and an immediate dilution of $8.19 per share to investors purchasing common stock in this offering.

The following table illustrates this dilution on a per share basis to new investors:

Assumed initial public offering price per share		$15.00
Historical net tangible deficit per share as of March 31, 2014	$(11.29)	
Pro forma increase in net tangible book value per share as of March 31, 2014 attributable to the conversion of preferred stock	15.69	
Pro forma net tangible book value per share as of March 31, 2014, before giving effect to this offering	4.40	
Increase in pro forma net tangible book value per share attributable to new investors purchasing shares in this offering	2.41	
Pro forma as adjusted net tangible book value per share after giving effect to this offering		6.81
Dilution in pro forma net tangible book value per share to new investors in this offering		$ 8.19

Each $1.00 increase (decrease) in the assumed initial public offering price of $15.00 per share would increase (decrease) the pro forma net tangible book value, as adjusted to give effect to this offering, to $7.06 per share and the dilution to new investors to $8.94 per share, assuming that the number of shares offered, as set forth on the cover page of this prospectus, remains the same, after deducting estimated underwriting discounts and commissions and estimated offering expenses. Similarly, each increase (decrease) of 1,000,000 shares in the number of shares of common stock offered would increase (decrease) the pro forma net tangible book value, as adjusted to give effect to this offering, to approximately $7.18 per share and the dilution to new investors to $7.82 per share, assuming the assumed initial public offering price remains the same and after deducting estimated

underwriting discounts and commissions and estimated offering expenses. If the underwriters exercise their option to purchase additional shares of common stock in full, the pro forma net tangible book value per share, as adjusted to give effect to this offering, would be $7.09 per share, and the dilution in pro forma net tangible book value per share to investors in this offering would be $7.91 per share.

The pro forma total number of shares of our common stock reflected in the discussion and table above is based on 13,664,426 shares of our common stock (including preferred stock on an as-converted basis and 63,076 shares of restricted common stock that will vest upon the closing of this offering) outstanding as of March 31, 2014, giving effect to our recapitalization, and excludes the following:

- 885,959 shares of common stock issuable upon settlement of RSUs outstanding as of March 31, 2014 pursuant to our 2012 Plans;
- 69,612 shares of common stock issuable upon settlement of RSUs issued or upon the exercise of stock options granted after March 31, 2014 under our 2014 Plan;
- 2,301,352 shares of common stock to be reserved for future issuance under our 2014 Plan, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan;
- 230,769 shares of common stock to be reserved for issuance under our ESPP, to be effective in connection with this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan; and
- 801,778 shares of restricted common stock, which remained subject to vesting as of March 31, 2014.

The table below summarizes as of March 31, 2014, on a pro forma as adjusted basis described above, the number of shares of our common stock, the total consideration and the average price per share (i) paid to us by our existing stockholders and (ii) to be paid by new investors purchasing our common stock in this offering at an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders	14,403,128	74.2%	$ 75,281,635	50.1%	$ 5.23
New investors	5,000,000	25.8%	75,000,000	49.9%	$ 15.00
Totals	19,403,128	100.0%	$150,281,635	100.0%	

If the underwriters exercise their option to purchase additional shares of our common stock in full, our existing stockholders would own 71.5% and our new investors would own 28.5% of the total number of shares of our common stock outstanding upon completion of this offering. In this event, the total consideration paid by our existing stockholders would be approximately $75.3 million, or 46.6%, and the total consideration paid by our new investors would be $86.3 million, or 53.4%.

The total number of shares of our common stock reflected in the table above is based on 14,403,128 shares of our common stock (including preferred stock on an as-converted basis) outstanding as of March 31, 2014, giving effect to our recapitalization, and excludes the following:

- 885,959 shares of common stock issuable upon settlement of RSUs outstanding as of March 31, 2014 pursuant to our 2012 Plans;
- 69,612 shares of common stock issuable upon settlement of RSUs issued or upon exercise of stock options granted after March 31, 2014 under our 2014 Plan;

- 2,301,352 shares of common stock to be reserved for future issuance under our 2014 Plan, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan; and
- 230,769 shares of common stock to be reserved for issuance under our ESPP, to be effective in connection with this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan.

To the extent that any outstanding RSUs vest and settle, options or RSUs are issued under our stock-based compensation plans or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering. If all outstanding RSUs as of March 31, 2014 vested and settled, then our existing stockholders, including the holders of these RSUs, would own 75.4% and our new investors would own 24.6% of the total number of shares of our common stock and common stock outstanding upon the closing of this offering.

SELECTED COMBINED AND CONSOLIDATED FINANCIAL DATA

The following selected combined and consolidated financial data should be read in conjunction with the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" as well as our audited combined financial statements and related notes included elsewhere in this prospectus. We have derived the summary combined statement of operations data for the period from August 22, 2012 (inception) to December 31, 2012 and the year ended December 31, 2013 from our audited combined financial statements included elsewhere in this prospectus. We have derived the summary combined and consolidated statements of operations data for the three months ended March 31, 2013 and 2014 and the period from August 22, 2012 (inception) to March 31, 2014 and our balance sheet data as of March 31, 2014 from our unaudited interim combined and consolidated financial statements included elsewhere in this prospectus. The unaudited interim combined and consolidated financial statements have been prepared on the same basis as the audited combined financial statements and reflect, in the opinion of management, all adjustments of a normal, recurring nature that are necessary for a fair presentation of the unaudited interim combined and consolidated financial statements. Our historical results are not necessarily indicative of the results to be expected in the future, and our interim results are not necessarily indicative of the results that should be expected for the full year or any other period.

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013	Three months ended March 31, (unaudited)		Period from August 22, 2012 (Inception) to March 31, 2014 (unaudited)
			2013	2014	
	(in thousands, except share and per share information)				
Combined and Consolidated Statements of Operations and Comprehensive Loss Data:					
Expenses:					
Research and development	$ 241	$ 4,306	$ 354	$ 2,981	$ 7,528
Research and development costs paid to Amgen	—	553	—	—	553
In-process research and development acquired from Amgen	3,018	—	—	—	3,018
General and administrative	834	3,756	932	4,096	8,686
Total expense	4,093	8,615	1,286	7,077	19,785
Loss from operations	(4,093)	(8,615)	(1,286)	(7,077)	(19,785)
Interest income	—	12	2	6	18
Loss before provision for income taxes	(4,093)	(8,603)	(1,284)	(7,071)	(19,767)
Provision (benefit) for income taxes	17	170	14	(22)	165
Net loss incurred in the development stage	$ (4,110)	$ (8,773)	$(1,298)	$(7,049)	$ (19,932)

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013	Three months ended March 31, (unaudited) 2013	Three months ended March 31, (unaudited) 2014	Period from August 22, 2012 (Inception) to March 31, 2014 (unaudited)
	(in thousands, except share and per share information)				
Other comprehensive loss, net of tax:					
Unrealized losses on investments	—	—	—	(11)	(11)
Other comprehensive loss	—	—	—	(11)	(11)
Comprehensive loss incurred in the development stage	$ (4,110)	$ (8,773)	$ (1,298)	$ (7,060)	$ (19,943)
Basic and diluted net loss per common share	$ (5.60)	$ (9.08)	(1.56)	(5.58)	
Weighted-average common shares outstanding used to compute basic and diluted net loss per common share	733,294	965,825	830,073	1,263,316	
Pro forma net loss per common share (unaudited)(1)		$ (1.28)		$ (0.52)	
Weighted-average common shares outstanding used to compute pro forma net loss per share		6,870,743		13,528,873	

(1) See Note 2 to our combined and consolidated financial statements for an explanation of the calculations of pro forma net loss per common share.

	As of December 31, 2012	As of December 31, 2013	As of March 31, 2014 (unaudited)
		(in thousands)	
Combined and Consolidated Balance Sheets Data:			
Cash and cash equivalents	$ 4,207	$ 51,615	$ 39,754
Short-term available-for-sale investments	—	—	22,277
Working capital	2,940	50,284	59,503
Total assets	4,290	51,828	62,866
Convertible preferred stock	6,711	61,091	74,572
Accumulated deficit	(4,110)	(12,883)	(19,932)
Total stockholders' deficit	(3,727)	(11,017)	(14,704)

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with the section of this prospectus titled "Selected Combined and Consolidated Financial Data" and our combined and consolidated financial statements and related notes included elsewhere in this prospectus. This discussion and other parts of this prospectus contain forward-looking statements that involve risk and uncertainties, such as statements of our plans, objectives, expectations and intentions. As a result of many factors, including those factors set forth in the "Risk Factors" section of this prospectus, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a clinical-stage biopharmaceutical company focused on developing novel therapeutics for serious unmet medical needs, with an initial focus on muscle wasting conditions and oncology. Our product candidates are biologics targeting myostatin and activin, members of the TGF-ß protein superfamily, which play roles in the growth and maintenance of muscle and many other body tissues. Our lead product candidate, PINTA 745, is in a Phase 2 clinical trial for PEW in ESRD patients. Our second product candidate is STM 434, and we expect to commence a Phase 1 clinical study of STM 434 for ovarian cancer and other solid tumors in the second half of 2014. We have five additional molecules in preclinical development. We intend to license or acquire additional product candidates to develop and commercialize.

Our current product candidate portfolio was acquired through licensing arrangements with Amgen in exchange for convertible preferred stock and future milestone payments and royalties. Through these arrangements, we obtained licenses to patent rights and the ability to use certain proprietary know-how to develop and commercialize a portfolio of seven product candidates. The arrangement did not provide for the acquisition of employees, facilities or ongoing services. We are responsible for obtaining all regulatory approvals and developing commercial scale manufacturing processes to enable eventual commercialization of these product candidates. Under the terms of these agreements, we made an upfront payment of $250,000 and issued 615,384 shares of Series A-1 convertible preferred stock on a combined basis to Amgen. We are also required to make additional payments of up to $86.0 million to Amgen based upon the achievement of certain development and regulatory approval milestones, as well as additional payments based on achievement of commercial milestones and future net sales of products resulting from development of these product candidates, if any. Of the $86.0 million, $14.0 million in potential payments relate to milestones for clinical trials.

We are considered a development-stage company under US generally accepted accounting principles, or GAAP, and have only a limited operating history. Since our inception in 2012, we have devoted substantially all of our resources to identify, acquire and develop our product candidates, including conducting preclinical and clinical studies and providing general and administrative support for these operations. We have funded our operations to date primarily from the issuance and sale of convertible preferred stock.

We have never generated revenues and have incurred net losses since inception. Our net losses were $8.8 million and $7.0 million for the year ended December 31, 2013, and the three months ended March 31, 2014, respectively. As of March 31, 2014, we had an accumulated deficit of $19.9 million. Substantially all of our net losses have resulted from costs incurred in connection with our research and development programs and from general and administrative expenses associated with our operations. Our cash and short-term available-for-sale investment balances at March 31, 2014 totaled $62.0 million, which we intend to use to fund our losses in the near term.

Financial Overview

Basis of Presentation and Recapitalization

Atara, Nina, Pinta and Santa Maria were incorporated in August 2012. Atara was formed as a management company with the sole purpose of providing management, financial and administrative services for Nina, Pinta and Santa Maria. Since inception, Atara, Nina, Pinta and Santa Maria have been under common management and common ownership for all periods and as of all dates prior to our recapitalization on March 31, 2014, we have presented the results of operations and financial condition of the four companies on a combined basis. The combined financial statements include the accounts of the four individual companies since inception, with intercompany transactions eliminated.

On March 31, 2014, we implemented a recapitalization in which (a) all the outstanding shares of common stock of Atara were cancelled and forfeited by existing stockholders and (b) the stockholders of Nina, Pinta and Santa Maria exchanged their existing common and convertible preferred stock for newly-issued shares of Atara, in the same proportions and with the same rights and privileges as the outstanding capital stock of Nina, Pinta and Santa Maria, on a collective nine-for-one basis. Atara assumed the separate equity incentive plans sponsored by Nina, Pinta and Santa Maria and all outstanding RSUs and restricted stock awards granted under such plans. At the time of RSU settlement, each employee or consultant will receive one share of common stock of Atara for three RSUs in each of Nina, Pinta, and Santa Maria (collectively, a nine-for-one exchange). We refer to this transaction as our recapitalization. As a result of the recapitalization, Nina, Pinta and Santa Maria became wholly owned subsidiaries of Atara effective March 31, 2014. The recapitalization was accounted for as a combination of businesses under common control and the assets and liabilities of Nina, Pinta and Santa Maria were recorded by Atara at their historical carrying amounts on March 31, 2014. Beginning March 31, 2014, our financial statements are presented on a consolidated basis, with all intercompany transactions eliminated. Except as otherwise noted, all share and per share amounts presented in this “Management’s Discussion and Analysis of Financial Condition and Results of Operations” give effect to the recapitalization.

Revenues

To date, we have not generated any revenues. We do not expect to receive any revenues from any product candidates that we develop until we obtain regulatory approval and commercialize our products or enter into collaborative agreements with third parties.

Research and Development Expenses

The largest component of our total operating expenses since inception has been our investment in research and development activities, including the preclinical and clinical development of our product candidates. Research and development expenses consist of costs incurred in performing research and development activities, including compensation and benefits for research and development employees, including stock-based compensation, an allocation of facility and overhead expenses, expenses incurred under agreements with contract research organizations and investigative sites that conduct clinical trials and preclinical studies, the costs of acquiring and manufacturing clinical trial materials and other supplies and costs associated with product development efforts, preclinical activities and regulatory operations. Research and development costs are expensed as incurred.

We plan to increase our research and development expenses for the foreseeable future as we continue the development of our product candidates. Our current planned research and development activities include the following:

- increased enrollment and completion of our Phase 2 clinical trial of PINTA 745;
- commencement of our Phase 1 clinical study of STM 434; and

- process development and manufacturing of drug supply for ATA 842 to support IND-enabling studies.

In addition to our product candidates that are in clinical development, we believe it is important to continue our substantial investment in a diverse pipeline of new product candidates to continue to build the value of our product candidate pipeline and our business. We plan to continue to advance our most promising early product candidates into preclinical development with the objective to advance these early-stage programs to human clinical studies over the next several years.

Our expenditures on current and future preclinical and clinical development programs are subject to numerous uncertainties in timing and cost to completion. The duration, costs, and timing of clinical trials and development of our product candidates will depend on a variety of factors, including:

- the scope, rate of progress, and expenses of our ongoing as well as any additional clinical trials and other research and development activities;
- future clinical trial results;
- uncertainties in clinical trial enrollment rates or drop-out or discontinuation rates of patients;
- potential additional safety monitoring or other studies requested by regulatory agencies;
- significant and changing government regulation; and
- the timing and receipt of any regulatory approvals.

The process of conducting the necessary clinical research to obtain FDA approval is costly and time consuming and the successful development of our product candidates is highly uncertain. The risks and uncertainties associated with our research and development projects are discussed more fully in the section of this prospectus titled “Risk Factors.” As a result of these risks and uncertainties, we are unable to determine with any degree of certainty the duration and completion costs of our research and development projects, or if, when, or to what extent we will generate revenues from the commercialization and sale of any of our product candidates that obtain regulatory approval. We may never succeed in achieving regulatory approval for any of our product candidates.

In-process Research and Development Acquired from Amgen

In-process research and development expenses acquired from Amgen consist of the value of the Series A-1 convertible preferred stock and the upfront payment of $250,000, which was the total consideration paid for our Amgen licenses. As the licensed compounds are in an early stage of development and the underlying technology has no alternative future uses, the total consideration was expensed in 2012.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel costs, allocated facilities costs, and other expenses for outside professional services, including legal, human resources, audit and accounting services. Personnel costs consist of salaries, benefits and stock-based compensation. We anticipate that our general and administrative expenses will continue to increase in the future as we increase our headcount to support our continued research and development and potential commercialization of our product candidates. We also anticipate increased expenses related to audit, legal, regulatory, and tax-related services associated with maintaining compliance with Nasdaq listing and SEC requirements, director and officer insurance premiums and investor relations costs associated with being a public company.

Interest Income

Interest income consists of interest earned on our cash, cash equivalents and marketable securities as well as interest on notes receivables issued to one of our employees related to the purchase of restricted common stock.

Critical Accounting Policies and Significant Judgments and Estimates

This discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with GAAP. The preparation of our financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Accrued Research and Development Expenses

As part of the process of preparing our financial statements, we are required to estimate and accrue expenses, the largest of which is related to accrued research and development expenses. This process involves reviewing contracts and purchase orders, identifying services that have been performed on our behalf, and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of the actual costs.

Costs for preclinical study and clinical trial activities are recognized based on an evaluation of our vendors' progress towards completion of specific tasks, using data such as patient enrollment, clinical site activations or information provided to us by our vendors regarding their actual costs incurred. Payments for these activities are based on the terms of individual contracts and payment timing may differ significantly from the period in which the services were performed. We determine accrual estimates through reports from and discussions with applicable personnel and outside service providers as to the progress or state of completion of trials, or the services completed. Our estimates of accrued expenses as of each balance sheet date are based on the facts and circumstances known at the time. For the period from August 22, 2012 (inception) to December 31, 2013 and to March 31, 2014, there have been no material changes to our estimates of accrued research and development expenses. Costs that are paid in advance of performance are deferred as a prepaid expense and amortized over the service period as the services are provided.

Estimated Fair Value of Series A-1 Convertible Preferred Stock

In consideration for the licenses of our product candidate portfolio, we issued 615,384 shares of Series A-1 convertible preferred stock and paid $250,000 to Amgen. We estimated the fair value of our Series A-1 preferred stock to be $2.8 million by using the option pricing model, or OPM, backsolve method. OPM treats the rights of the holders of shares of preferred and common stock as equivalent to call options on any value of the enterprise above certain break points of value based upon the liquidation preferences of the holders of preferred stock, as well as their rights to participation and conversion. Thus, the estimated value of the Series A-1 convertible preferred stock can be determined by estimating the value of its portion of each of these call option rights. The OPM backsolve method derives the implied equity value of a company from a recent transaction involving the company's own securities issued on an arm's-length basis. This implied equity value is then allocated to each part of our capital structure, including our Series A-1 convertible preferred stock and common stock. Significant assumptions used at the time of valuation included an estimated volatility of 53.3%, a risk free interest rate of 0.28% and time to a liquidity event of 2.25 years.

Stock-based Compensation

Because our common stock is not currently publicly traded, our board of directors, with the assistance of management, uses significant judgment to estimate the fair value of our common stock. Following the closing of this offering, the fair value of our common stock will be determined based on the closing price of our common stock on The Nasdaq Global Market.

We account for stock-based compensation expense, including the expense of restricted stock awards and RSUs, based on the fair values of the equity instruments issued. The fair value is determined on the measurement date, which is generally the date of grant for employee awards and the date when the service performance is completed for non-employees. The fair value for our restricted stock awards is their intrinsic value, which is the difference between the fair value of underlying stock at the measurement date and the purchase price. The fair value of our RSUs is the fair value of the underlying stock at the measurement date. Stock-based compensation expense for awards with time-based vesting criteria is recognized as expense on a straight-line basis over the requisite service period for employees and on an accelerated graded vesting basis for non-employees. For employees' awards with performance-based vesting criteria, we assess the probability of the achievement of the performance conditions at the end of each reporting period and recognize the share-based compensation costs when it becomes probable that the performance conditions will be met. For non-employees' awards with performance-based vesting criteria, we assess all possible outcomes at the end of each reporting period and recognize the lowest aggregate fair value in the range of possible outcomes. The lowest value in the range of possible outcomes may be zero. For awards that are subject to both service and performance conditions, no expense is recognized until it is probable that performance conditions will be met.

Prior to our recapitalization, we issued restricted stock awards and RSUs for common stock of Nina, Pinta and Santa Maria to individuals who were employed by or served as consultants of Atara and provided services to Nina, Pinta and Santa Maria through Atara. Because these individuals were not employees of Nina, Pinta or Santa Maria, as these entities were not subsidiaries of Atara until the recapitalization, all of our restricted stock awards and RSUs issued through the date of the recapitalization are deemed to have been issued to non-employees. As such, we determined the estimated fair value of the underlying common stock at the end of each period, as the services were performed. The estimated fair value of our common stock was determined at each valuation date in accordance with the guidelines outlined in the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. Our board of directors, with the assistance of management, developed these valuations using significant judgment and taking into account numerous factors, including developments at our company, market conditions and contemporaneous independent third-party valuations with effective dates as of December 31, 2012, March 5, 2013, November 25, 2013, January 8, 2014 and March 31, 2014.

For each valuation date through January 8, 2014, we determined the fair value of our common stock by using the OPM backsolve method. We adjusted our estimates of fair value between valuation periods based upon changes in overall market conditions or achievement of milestones.

The increased probability of an initial public offering was taken into consideration in the March 31, 2014 valuation, which is a critical factor contributing to the increase in the fair value of our common stock as of that date. For purposes of the March 31, 2014 valuation, a hybrid method was used to determine the fair value of our common stock, which incorporated use of both the probability-weighted return methodology, or PWERM, and the OPM. The PWERM is a scenario-based analysis that estimates the value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes available to us, as well as the economic and control rights of each share class. In the hybrid method, the OPM is used to estimate the allocation

of value within one or more of PWERM scenarios. The hybrid method can be a useful alternative to explicitly modeling all PWERM scenarios in situations when the company has transparency into one or more near-term exits but is unsure about what will occur if the current plans fall through. The hybrid model was selected at this time for the reasons described above relating to our plans for a potential initial public offering.

Under the hybrid method, the OPM was used to allocate the equity value considering the probability that an initial public offering does not occur in the near-term. Under this scenario, private transactions in our Series B shares and a discounted cash flow analysis were utilized to determine the fair value of the company. This value was then allocated using an OPM to determine the fair value of our shares under this scenario. The PWERM scenarios in the hybrid method consider three near-term exit events. The first scenario assumed we would complete an initial public offering within four months, the second scenario assumed we would complete an initial public offering within 13 months and the third scenario assumed we would complete an initial public offering within 21 months. The estimated time to liquidity was based on the probability weighted time of a liquidity event considering the three scenarios.

Significant assumptions for each valuation include:

	Common Stock Value[1]	Volatility[2]	Risk-free Rate	Years to Exit	Discount for Lack of Marketability
December 31, 2012	$ 1.60	53.3%	0.28%	2.25	29.7%
March 5, 2013	$ 1.63	54.5%	0.25%	2.00	29.7%
November 25, 2013	$ 2.57	54.2%	0.26%	1.75	26.9%
January 8, 2014	$ 2.67	53.2%	0.32%	1.63	25.5%
March 31, 2014[3]	$ 8.59	56.0%	0.14%	1.03	21.8%

(1) Common stock value is presented giving effect to the recapitalization.
(2) The computation of expected volatility is based on the historical volatility of a representative group of public biotechnology and life sciences companies with similar characteristics, including early stage of product development and therapeutic focus.
(3) Derived by using OPM and PWERM in the hybrid method using multiple scenarios.

In connection with the recapitalization, we assumed all outstanding restricted stock awards and RSUs granted by Nina, Pinta and Santa Maria. At the date of the recapitalization, RSUs and restricted stock awards issued by Nina, Pinta and Santa Maria to Atara employees became employee awards for accounting purposes, and the awards' grant dates were established as the recapitalization date.

The RSUs we have granted have a time-based service condition and a liquidity-based performance condition, and will vest when both conditions are met. We have determined that the liquidity-based condition is not probable of occurring and recorded no compensation expense related to the RSUs during the period from August 22, 2012 (inception) to March 31, 2014. As of March 31, 2014, there was approximately $7,647,788 of unrecognized stock-based compensation expense related to nonvested RSUs. Assuming an initial public offering had occurred on March 31, 2014, $2,253,569 of this stock-based compensation expense would have been recognized in our statement of operations and comprehensive loss for the three months ended March 31, 2014 and $5,394,219 would be recognized over the remaining service periods through 2018.

Income Taxes

We recognize deferred income taxes for temporary differences between the basis of assets and liabilities for financial statement and income tax purposes. We periodically evaluate the positive and negative evidence bearing upon realizability of our deferred tax assets. Based upon the weight of available evidence, which includes our historical operating performance, reported cumulative net

losses since inception and difficulty in accurately forecasting our future results, we maintained a full valuation allowance on the net deferred tax assets for all periods presented. We intend to maintain a full valuation allowance on the US deferred tax assets for the foreseeable future until sufficient positive evidence exists to support reversal of the valuation allowance.

At December 31, 2012 and 2013, we had federal and state net operating loss carryforwards of approximately $0.8 million and $7.2 million, respectively, which, if not utilized, begin to expire in various amounts beginning in the year 2032.

Under Section 382 of the Code, our ability to utilize net operating loss carryforwards or other tax attributes, such as research tax credits, in any taxable year may be limited if we have experienced an “ownership change.” Generally, a Section 382 “ownership change” occurs if one or more stockholders or groups of stockholders who owns at least 5% of a corporation’s stock increases its ownership by more than 50 percentage points over its lowest ownership percentage within a specified testing period. Similar rules may apply under state tax laws. During 2014, we completed a Section 382 study of transactions in our stock through December 31, 2013.

The study concluded that we have experienced at least one ownership change since inception and that our utilization of net operating loss carryforwards will be subject to annual limitations. These results are reflected in the above carryforward amounts. Our ability to utilize our net operating loss carryforwards may be further limited as a result of subsequent ownership changes including potential changes in connection with or after our proposed initial public offering. Further, other provisions of the Code may limit our ability to utilize federal net operating losses incurred before the recapitalization to offset income or gain realized after the recapitalization unless such income or gain is realized by the same entity that originally incurred such losses. All such limitations could result in the expiration of carryforwards before they are utilized.

We had no unrecognized tax benefits as of December 31, 2012 and 2013. Our policy is to recognize interest and penalties related to income taxes as a component of income tax expense. No interest and penalties related to income taxes have been recognized in the statements of operations and comprehensive loss in 2012 and 2013.

Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. Internal control over financial reporting includes: maintaining records that in reasonable detail accurately and fairly reflect our transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of our financial statements; providing reasonable assurance that receipts and expenditures of our assets are made in accordance with management’s authorization; and providing reasonable assurance that unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements would be prevented or detected on a timely basis. Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of our financial statements would be prevented or detected. Furthermore, our controls and procedures can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls or procedures, and misstatements due to error or fraud may occur and not be detected on a timely basis.

Our management has determined that we had a material weakness in our internal control over financial reporting as of December 31, 2012 and 2013 relating to the design and operation of our

closing and financial reporting processes. We have concluded that this material weakness in our internal control over financial reporting is due to the fact that we do not yet have the appropriate resources with the appropriate level of experience and technical expertise to oversee our closing and financial reporting processes.

In order to remediate this material weakness, we are taking the following actions:

- we have hired a full-time controller and transitioned Mr. McGrath from a consulting role to a full-time chief financial officer role;
- we have hired and are continuing to actively seek additional accounting and finance staff members to augment our current staff and to improve the effectiveness of our closing and financial reporting processes; and
- we are formalizing our accounting policies and internal controls documentation and strengthening supervisory reviews by our management.

In connection with the initiatives we are implementing to remediate the material weakness, we expect to incur additional compensation expense as we hire additional financial accounting staff and improve our accounting and financial reporting systems. The initiatives we are implementing are subject to continued management review supported by confirmation and testing, as well as audit committee oversight. We expect to complete the measures above as soon as practicable upon the completion of this offering and will continue to implement measures to remedy our internal control deficiencies in order to meet the deadline imposed by Section 404 of the Sarbanes-Oxley Act of 2002. However, we cannot be certain that the measures we have taken or might take in the future will ensure that we will maintain adequate controls over our financial processes and reporting in the future.

Notwithstanding the material weakness that existed as of December 31, 2012 and 2013, our management has concluded that the combined and consolidated financial statements included elsewhere in this prospectus present fairly, in all material respects, our financial position, results of operation and cash flows in conformity with GAAP.

If we fail to fully remediate this material weakness or fail to maintain effective internal controls in the future, it could result in a material misstatement of our financial statements that would not be prevented or detected on a timely basis, which could cause investors to lose confidence in our financial information or cause our stock price to decline. Our independent registered public accounting firm has not assessed the effectiveness of our internal control over financial reporting and, under the JOBS Act, will not be required to provide an attestation report on the effectiveness of our internal control over financial reporting so long as we qualify as an “emerging growth company,” which may increase the risk that weaknesses or deficiencies in our internal control over financial reporting go undetected.

Emerging Growth Company Status

We are an “emerging growth company” as defined in the JOBS Act, and therefore we may take advantage of certain exemptions from various public company reporting requirements. As an “emerging growth company:”

- we will present no more than two years of audited financial statements and no more than two years of related management’s discussion and analysis of financial condition and results of operations;
- we will avail ourselves of the exemption from the requirement to obtain an attestation and report from our auditors on the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act;
- we will provide less extensive disclosure about our executive compensation arrangements; and

- we will not require stockholder non-binding advisory votes on executive compensation or golden parachute arrangements.

However, we are choosing to irrevocably opt out of the extended transition periods available under the JOBS Act for complying with new or revised accounting standards. We will remain an "emerging growth company" for up to five years, although we will cease to be an "emerging growth company" upon the earliest of: (1) the last day of the fiscal year following the fifth anniversary of this offering, (2) the last day of the first fiscal year in which our annual gross revenues are $1 billion or more, (3) the date on which we have, during the previous rolling three-year period, issued more than $1 billion in non-convertible debt securities, and (4) the date on which we are deemed to be a "large accelerated filer" as defined in the Exchange Act.

Results of Operations

Comparison of the Period from August 22, 2012 (Inception) to December 31, 2012 and Year Ended December 31, 2013

Research and development expenses

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013	Increase (Decrease)
		(in thousands)	
Research and development	$ 241	$ 4,306	$ 4,065
Research and development costs paid to Amgen	—	553	553
Total	$ 241	$ 4,859	$ 4,618

Research and development expenses increased during the year ended December 31, 2013 compared to the period ended December 31, 2012 and consisted of the following costs by program:

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013
	(in thousands)	
PINTA 745	$ 15	$ 1,658
STM 434	66	1,936
ATA 842	—	16
Employee and overhead cost	160	1,249
Total	$ 241	$ 4,859

PINTA 745 costs increased by $1.6 million in 2013 compared to the 2012 period primarily due to a $0.4 million increase in outside consultants' costs and $0.7 million of direct costs to support the Phase 2 clinical trial that commenced during the fourth quarter of 2013. In addition, as part of our licenses with Amgen, we purchased clinical drug and placebo supplies for $0.6 million, which we will use in our Phase 2 trial. In the future, we anticipate that costs related to the future clinical drug supply will increase as we contract with a third party supplier to manufacture these materials.

STM 434 program costs increased by $1.9 million in 2013 compared to the 2012 period primarily due to $1.5 million in outside manufacturing costs for clinical drug supply and approximately $0.4 million of outside consultants' costs related to the Phase 1 clinical study of STM 434 in 2014.

Employee and overhead costs increased by $1.1 million in 2013 as compared to the 2012 period as a result of increased headcount, higher stock-based compensation costs and a full year of expenses in 2013, compared to only four months in 2012.

In-process research and development acquired from Amgen

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013	Increase (Decrease)
		(in thousands)	
In-process research and development acquired from Amgen	$ 3,018	—	($ 3,018)

Licenses acquired from Amgen related to compounds in early stages of development that had no alternative future use. We recognized total consideration for these licenses of $3.0 million in acquired in-process research and development expenses in the period from August 22, 2012 (inception) to December 31, 2012.

General and administrative expenses

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013	Increase (Decrease)
		(in thousands)	
General and administrative	$ 834	$ 3,756	$ 2,922

General and administrative expenses increased in 2013 compared to the 2012 period primarily due to a $1.2 million increase in stock-based compensation costs, $0.8 million of legal fees associated with patent filings and maintenance and $0.5 million of additional personnel costs. Personnel costs and stock-based compensation costs were higher in 2013 due to increased headcount and a full year of expenses in 2013, compared to only four months in 2012.

Interest income

Interest income consists primarily of interest earned on cash and cash equivalents and remained relatively low in 2013.

Comparison of the Three Months Ended March 31, 2013 and 2014

Research and development expenses

	Three months ended March 31,		Increase (Decrease)
	2013	2014	
		(in thousands)	
Research and development	$ 354	$ 2,981	$ 2,627

Research and development expenses increased during the three months ended March 31, 2014 compared to the same period in 2013 and consisted of the following costs by program:

	Three months ended March 31,	
	2013	2014
	(in thousands)	
PINTA 745	$ 76	$ 525
STM 434	100	1,317
ATA 842	—	12
Employee and overhead cost	178	1,127
Total	$ 354	$ 2,981

PINTA 745 costs increased by $0.4 million in the three months ended March 31, 2014 compared to the quarter ended March 31, 2013 due primarily to a $0.5 million increase in outside consultants' costs to support the Phase 2 clinical trial that commenced during the fourth quarter of 2013.

STM 434 program costs increased by $1.2 million in the three months ended March 31, 2014 compared to the quarter ended March 31, 2013 due to $0.9 million in increased outside manufacturing costs for clinical drug supply and approximately $0.2 million of increased outside consultants' costs related to the upcoming Phase 1 clinical study of STM 434, which is expected to commence in the second half of 2014.

Employee and overhead costs increased by $0.9 million in 2014 as compared to the 2013 quarter as a result of increased payroll-related costs of $0.2 million resulting from increased headcount and higher stock-based compensation costs of $0.7 million.

General and administrative expenses

	Three months ended March 31,		Increase
	2013	2014	(Decrease)
	(in thousands)		
General and administrative	$ 932	$ 4,096	$ 3,164

General and administrative expenses increased in the three months ended March 31, 2014 compared to the quarter ended March 31, 2013 due to a $2.3 million increase in stock-based compensation costs, $0.6 million of increased legal and accounting fees associated with the audit of our financial statements and corporate costs in advance of our initial public offering and $0.2 million of additional payroll-related costs. Personnel costs and stock-based compensation costs were higher in the three months ended March 31, 2014 compared to the same period in 2013 due to increased headcount.

Liquidity and Capital Resources

We have incurred cumulative losses and negative cash flows from operations since our inception in 2012, and we had an accumulated deficit of $12.9 million as of December 31, 2013 and $19.9 million as of March 31, 2014. It will be several years, if ever, before we have a product candidate ready for commercialization, and we anticipate that we will continue to incur losses for at least the next several years. We expect that our research and development and general and administrative expenses will continue to increase and, as a result, we will need additional capital to fund our operations, which we may raise through a combination of equity offerings, debt financings, other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements.

In January 2014, we completed the sale and issuance of additional shares of Series B convertible preferred stock with gross proceeds of $13.5 million. Cash in excess of immediate requirements is invested in accordance with our investment policy, primarily with a view to liquidity and capital preservation. Currently, our cash and cash equivalents and short-term investments are held in bank and custodial accounts and consist of money market mutual funds, corporate bonds and commercial paper.

Working capital was $2.9 million, $50.3 million and $59.5 million as of December 31, 2012, December 31, 2013 and March 31, 2014, respectively. Included in working capital were cash, cash equivalents, and short-term investments of $4.2 million, $51.6 million and $62.0 million as of December 31, 2012, December 31, 2013 and March 31, 2014, respectively.

Our cash, cash equivalents and short-term investments balances were as follows:

	December 31,		March 31,
	2012	2013	2014
	(in thousands)		
Cash and cash equivalents	$4,207	$51,615	$39,754
Short-term available-for-sale investments	—	—	22,277
Total cash and cash equivalents and short-term available-for-sale investments	$4,207	$51,615	$62,031

Cash Flows

Comparison of the Period from August 22, 2012 (Inception) to December 31, 2012 and the Year Ended December 31, 2013

The following table details the primary sources and uses of cash for each of the periods set forth below:

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013
	(in thousands)	
Net cash provided by (used in):		
Operating activities	$ (825)	$ (5,966)
Investing activities	(9)	(3)
Financing activities	5,041	53,377
Net increase in cash and cash equivalents	$ 4,207	$ 47,408

Operating activities

For the period from August 22, 2012 (inception) to December 31, 2012 and the year ended 2013, we used $0.8 million and $6.0 million of net cash in operating activities, respectively. The $5.1 million increase in cash used in operating activities was primarily due to the increase in combined net loss from 2012 to 2013.

Investing activities

For the period from August 22, 2012 (inception) to December 31, 2012 and the year ended 2013, net cash used in investing activities consisted of costs related to the purchase of property and equipment.

Financing activities

Net cash provided by financing activities for the period from August 22, 2012 (inception) to December 31, 2012 was $5.0 million, consisting of proceeds from the sale of shares of Series A

convertible preferred stock and common stock. Net cash provided by financing activities for the year ended December 31, 2013 was $53.4 million, consisting of proceeds from the sale of shares of Series A and Series B convertible preferred stock, net of offering costs.

Comparison of the Three Months Ended March 31, 2013 and 2014

The following table details the primary sources and uses of cash for each of the periods set forth below:

	Three months ended March 31,	
	2013	2014
	(in thousands)	
Net cash provided by (used in):		
Operating activities	$ (729)	$ (2,917)
Investing activities	—	(22,415)
Financing activities	14,963	13,471
Net increase (decrease) in cash and cash equivalents	$14,234	$(11,861)

Operating activities

For the three months ended March 31, 2013 and 2014, we used $0.7 million and $2.9 million of net cash in operating activities, respectively. The $2.2 million increase in cash used in operating activities was primarily due to the increase in net loss from the quarterly periods in 2013 to 2014 of $5.8 million, offset in part by a $3.0 million increase in stock-based compensation for the 2014 period.

Investing activities

Net cash used in investing activities consisted primarily of $22.4 million invested in short-term available-for-sale securities purchased during the first quarter of 2014.

Financing activities

Net cash provided by financing activities for the three months ended March 31, 2013 was $15.0 million, consisting of proceeds from the sale of shares of Series A convertible preferred stock net of offering costs. Net cash provided by financing activities for the three months ended March 31, 2014 was $13.5 million, consisting primarily of proceeds from the sale of shares of Series B convertible preferred stock, net of offering costs.

Operating Capital Requirements and Plan of Operations

To date, we have not generated any revenue from product sales. We do not know when, or if, we will generate any revenue from product sales. We do not expect to generate significant revenue from product sales unless and until we obtain regulatory approval of and commercialize one of our current or future product candidates. We anticipate that we will continue to generate losses for the foreseeable future, and we expect the losses to increase as we continue the development of and seek regulatory approvals for our product candidates, and begin to commercialize any approved products. We are subject to all of the risks incident in the development of new products, and we may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. Upon the closing of this offering, we expect to incur additional costs associated with operating as a public company and we anticipate that we will need substantial additional funding in connection with our continuing operations.

We expect that our existing cash and cash equivalents, excluding the proceeds from this offering, will be sufficient to enable us to complete planned preclinical and clinical trials for our lead product candidates through at least the end of 2015. In order to complete the process of obtaining regulatory approval for our lead product candidates and to build the sales, marketing and distribution infrastructure that we believe will be necessary to commercialize our lead product candidates, if approved, we will require substantial additional funding.

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

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

Contractual Obligations and Commitments

The following table summarizes our contractual obligations at December 31, 2013:

	Total	Less than 1 Year	1 to 3 Years	3 to 5 Years	More than 5 Years
			(in thousands)		
Operating lease obligations[1]	$56	$ 55	$ 1	—	—

(1) We lease office and laboratory space in Westlake Village, California and Brisbane, California under noncancelable operating leases that expire in October 2014 and January 2015, respectively.

Contingent contractual obligations

Under the terms of our license agreements with Amgen, we are obligated to make additional milestone payments to Amgen of up to $86.0 million upon the achievement of certain development and regulatory approval milestones. Of these milestone payments, $14.0 million relates to milestones for clinical trials. The remaining $72.0 million relates to milestones for regulatory approvals in various territories and are anticipated to be made no earlier than 2017. Thereafter, we are obligated to make tiered payments based on achievement of commercial milestones based upon net sales levels. The maximum payments would be $206.0 million based on sales of over $1 billion for each of three products in a calendar year. We are also obligated to pay mid-single-digit percentage tiered royalties

on future net sales of products which are developed and approved as defined by the agreements. Our royalty obligations as to a particular licensed product will be payable, on a country-by-country and product-by-product basis, until the later of (a) the date of expiration of the last to expire valid claim within the licensed patents that covers the manufacture, use or sale, offer to sell, or import of such licensed product by us or a sublicense in such country, (b) loss of regulatory exclusivity or (c) 10 years after the first commercial sale of the applicable licensed product in the applicable country. As of December 31, 2013, there were no outstanding obligations due to Amgen. We made a $1.0 million milestone payment in the second quarter of 2014 relating to the opening of the IND for STM 434.

In accordance with terms of the agreements, we use commercially reasonable efforts to pay costs related to the preparation, filing, prosecution, defense and maintenance of the patents covered by the license agreements. In 2012 and 2013, we incurred expenses of $0.1 million and $0.8 million related to the preparation, filing and maintenance of patents and patent applications.

Off-Balance Sheet Arrangements

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

Quantitative and Qualitative Disclosures about Market Risks

We are exposed to market risk related to changes in interest rates. As of December 31, 2012, December 31, 2013, and March 31, 2014 we had cash and cash equivalents and short-term available-for-sale investments of $4.2 million, $51.6 million, and $62.0 million, respectively. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of US interest rates, particularly because our investments are in short-term securities. Our available-for-sale securities are subject to interest rate risk and will fall in value if market interest rates increase. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 10% increase in interest rates would not have a material effect on the fair market value of our portfolio.

BUSINESS

Overview

We are a clinical-stage biopharmaceutical company focused on developing novel therapeutics for serious unmet medical needs, with an initial focus on muscle wasting conditions and oncology. Our product candidates are biologics targeting myostatin and activin, members of the TGF-ß protein superfamily, which play roles in the growth and maintenance of muscle and many other body tissues. Our lead product candidate, PINTA 745, is in a Phase 2 clinical trial for PEW in ESRD patients. Our second product candidate is STM 434, and we expect to enter a Phase 1 clinical study of STM 434 for ovarian cancer and other solid tumors in the second half of 2014. We have five additional molecules in preclinical development. We intend to license or acquire additional product candidates to develop and commercialize.

Our lead product candidate, PINTA 745, is a peptibody that binds to and inhibits myostatin, a protein that down regulates muscle growth and maintenance. In a Phase 1 study, PINTA 745 was found to increase muscle mass compared to placebo after one month of weekly dosing, an increase that was statistically significant, indicating that it is more likely than not that the benefit observed in the study was due to drug treatment rather than chance. We are enrolling a US-based Phase 2 clinical trial to further establish the role of PINTA 745 in building muscle mass, as well as to collect data from corresponding functional muscle tests. This trial is being conducted in patients with ESRD who are also suffering from PEW.

PEW is a major complication of ESRD. A recent study we completed with DaVita Clinical Research, a division of DaVita Healthcare Partners Inc., concluded that more than half of DaVita's dialysis population meet the conditions for PEW and, in comparison to the rest of the group, exhibit worse morbidity and mortality. There is currently no approved therapy for patients suffering from PEW.

We believe PINTA 745 is the only potential therapeutic in clinical development to treat this patient population.

In clinical studies conducted of PINTA 745 in men with prostate cancer and in mouse studies in a model of chronic kidney disease, or CKD, conducted with PINTA 745/s, a version of PINTA 745 that was customized for use in mice, several properties well suited for a potential therapeutic for PEW were observed, including:

- ***Reversing muscle loss*** — PINTA 745 not only stopped muscle wasting, it significantly increased muscle mass after four weeks of treatment.
- ***Dosing control*** — PINTA 745 has a human circulating half-life of four days, which affords physicians a significant level of dosing control while conveniently aligning with dialysis treatment schedules. We believe that this is particularly important in ESRD patients given changes in patient weight.
- ***Anti-inflammatory properties*** — In an animal model of renal disease, PINTA 745/s exhibited significant anti-inflammatory properties, a factor that we believe will be important due to the critical role that inflammation plays in PEW and the overall declining health of ESRD patients.

We designed the Phase 2 trial to give us insight into potential additional therapeutic areas for PINTA 745. These could include: orthopedic indications; inflammation and inflammatory diseases; age-related sarcopenia (loss of muscle); and cancer cachexia. In each of these conditions, muscle loss prevention, muscle growth and reduction in inflammation resulting from treatment with PINTA 745 could lead to improved physical function and therefore to better outcomes. We expect to release initial data from this Phase 2 clinical trial in the second half of 2015.

Our second product candidate, STM 434, has an open IND and we expect to commence a Phase 1 clinical study of up to 66 patients with ovarian cancer and other solid tumors in the second half of 2014. STM 434 is a soluble ActR2B receptor that binds Activin A. Activin has been shown to be involved in the growth and proliferation of ovarian cancer and other tumors, with published evidence of

its role at both the genetic (messenger RNA) and protein levels. Activin expression is one of a few biomarkers associated with larger tumor volume and poorer outcomes, including shortened survival in a variety of tumors including ovarian tumors. Published data has shown that serum Activin A levels in ovarian cancer subjects are elevated in relation to levels in normal subjects. We plan to test the potential use of Activin A as a biomarker in our Phase 1 clinical study.

Ovarian cancer is the fifth leading cause of cancer death in women in the United States. According to the National Cancer Institute, there were an estimated 22,240 new ovarian cancer cases and 14,030 ovarian cancer deaths in the United States in 2013. Surgery and cytotoxic chemotherapies are widely used to treat ovarian cancer; however, the outcomes have changed little in 40 years. The proportion of all ovarian cancer patients surviving five years after diagnosis was only 44% based on the National Cancer Institute SEER database for women diagnosed from 2003 to 2009.

Some subtypes of ovarian tumors respond even more poorly to treatment than others and represent opportunities where drug development could be accelerated. In particular, clear cell and granulosa cell tumors are considered resistant to chemotherapy. Our preclinical experiments in animal models of these subtypes indicate that binding Activin A with a soluble receptor could significantly reduce tumor proliferation, reduce tumor volume and potentially increase survival. We believe that novel therapies for clear cell and granulosa cell tumors could qualify for FDA breakthrough designation, an FDA process designed to accelerate the development and review of drugs intended to treat a serious condition when early studies show that the drug may be substantially better than current treatment, and thereby achieve expedited regulatory approval. Based on its mechanism of action, we also believe that STM 434 has the potential to be the first product to target tumor growth and proliferation through the inhibition of Activin A.

Both PINTA 745 and STM 434 are novel molecules with well-characterized mechanisms of action. They were developed initially, along with our five other in-licensed programs, at Amgen. Taken together, we believe these unique product candidates constitute a pipeline of biologics that have benefited from years of investment, resulting in a large patent portfolio, broad preclinical testing and, in the case of PINTA 745, promising clinical results. We are evaluating the remaining five molecules to determine the best path forward. Where appropriate, we intend to conduct preclinical studies and file INDs with the FDA for these candidates.

Our business model is to license or acquire and develop novel molecules for serious unmet medical needs with validated molecular targets and established proof of concept. Based on the properties of each of these molecules, including efficacy, safety, pharmacokinetics, affinity and other characteristics, we match each program to clinical indications that we believe maximize its therapeutic potential and may result in an expedited path to market. We believe our management team has the breadth and depth of experience to execute this model. Our management team includes:

- ***Isaac E. Ciechanover, M.D.***, our President and Chief Executive Officer, was Executive Director for Business Development at Celgene. At Celgene, he led the company's venture capital efforts and led licensing and acquisition activities with an aggregate transaction value of more than $6.7 billion. Those efforts included striking licensing and partnership transactions with cancer therapeutics companies Agios Pharmaceuticals, Inc., Acceleron Pharma Inc. and PTC Therapeutics Inc. Prior to founding Atara, Dr. Ciechanover was a Partner with Kleiner Perkins Caufield & Byers, a leading venture capital firm.
- ***Christopher Haqq, M.D., Ph.D.***, our Chief Medical Officer, was Vice President for Clinical Research and Development at Cougar Biotechnology, which was acquired by Johnson & Johnson in 2009. At Cougar Biotechnology, he was the lead clinician for a pivotal prostate cancer study leading to market approval for Zytiga (abiraterone acetate). He has served as medical monitor for more than ten clinical trials and has contributed to drug development

programs for a wide range of molecules, and served as an attending oncology physician and director of a translational laboratory at the University of California, San Francisco.

- ***Mitchall G. Clark***, our Chief Regulatory and Quality Officer, was previously Senior Vice President of Global Regulatory Affairs at Abraxis Bioscience, Inc., or Abraxis, where he submitted and managed five INDs for oncology and cardiovascular drugs including Abraxane (nanoparticle albumin-bound paclitaxel).
- ***Gad Soffer***, our Chief Operating Officer, previously held various roles at Celgene, including most recently Global Project Leader for Abraxane following Celgene's acquisition of Abraxis, where he led successful regulatory submissions for pancreatic cancer and non-small cell lung cancer.
- ***John F. McGrath, Jr.***, our Chief Financial Officer, was previously Executive in Residence and Operating Partner at Kleiner Perkins Caufield & Byers. Prior to that time, he served as Vice President and Chief Financial Officer for Network Equipment Technologies, Inc., a publicly traded company. He has served on the board of directors of the Presidio Fund, a publicly traded mutual fund, and on the boards of directors and as Audit Committee chairman of publicly traded companies Actel Corporation and Endwave Corporation.

Our Strategy

Our goal is to be a leader in the development and commercialization of novel therapeutics for serious unmet medical needs. We are initially focused on muscle wasting conditions and oncology. Key components to achieve this objective include:

- ***Rapidly advance PINTA 745 in clinical development***— We intend to complete our ongoing Phase 2 clinical trial with PINTA 745 with the goal of obtaining positive results in ESRD patients with PEW. If the data supports it, we intend to seek feedback from health authorities, including the FDA, and advance PINTA 745 to global registration trials in PEW. In parallel, we intend to seek out additional indications for which to explore the therapeutic utility of PINTA 745.
- ***Obtain clinical proof of concept for STM 434***— We expect to commence a Phase 1 study with STM 434 to study safety and tolerability as well as early signs of activity in a patient population that includes patients with ovarian and other solid tumors in the second half of 2014. We intend to test STM 434 as a single therapy and in combination with other chemotherapy options that are the current standard of care. In the clear cell and granulosa cell subtypes of ovarian cancer, we may seek orphan drug status. If supported by the clinical data, we may seek breakthrough designation and pursue clinical trials of STM 434 in these specific subtypes.
- ***Evaluate our product candidates and advance them into the clinic as appropriate***— Our initial product portfolio includes five additional unique candidates that have not yet entered clinical trials. We will evaluate these candidates and determine which of them to advance and the indications in which to advance them.
- ***Leverage our relationships and experience to in-license or acquire additional molecules for development***— We intend to capitalize on our relationships with both pharmaceutical companies and academic institutions to identify, review and ultimately license or acquire novel product candidates, which our team will develop and commercialize.
- ***Retain worldwide rights for product candidates*** — We intend to maintain worldwide rights to our product candidates in order to maximize their commercial value. We are developing our product candidates in specialty indications in which we believe it is feasible and economically advantageous to build our own commercial organization. However, when compelling opportunities arise, it may be to our advantage to seek collaborations in certain indication areas or geographies. We hold worldwide rights to our entire portfolio, except for PINTA 745, which Amgen licensed to Takeda in Japan.

Our Product Candidates

PINTA 745 for Protein-Energy Wasting in End-Stage Renal Disease Patients

Our lead product candidate, PINTA 745, is a peptibody that binds myostatin and inhibits its corresponding signal transduction, thereby blocking the negative regulation of skeletal muscle growth. We are conducting a Phase 2 trial in patients with ESRD who are also suffering from PEW at six US-based sites, including academic sites, as well as those associated with Fresenius and DaVita, two leading providers of kidney care in the United States. PEW refers to a state of muscle wasting, inflammation and malnutrition that increases patients' risk for infections, cardiovascular disease and other complications. We believe that patients with PEW may benefit from the muscle-building demonstrated in earlier clinical trials and anti-inflammatory properties of PINTA 745 demonstrated in preclinical trials, which are discussed in more detail below. INDs for PINTA 745 were filed by Amgen, the product candidate's previous sponsor, in October 2005 and July 2009. Both of these INDs are open, with our wholly owned subsidiary Pinta as the holder.

Protein-Energy Wasting in ESRD Patients

PEW is a common and serious condition affecting patients on kidney dialysis. Patients with PEW lose significant body mass and suffer from muscle wasting and weakness. In several published studies, PEW has been shown to increase the already high morbidity and mortality associated with ESRD. A study published in 2010 examined 40,950 dialysis patients from 12 countries and showed that PEW increases patients' risk for infections, cardiovascular disease and other complications. Another study published in 2010 examined more than 120,000 dialysis patients and found that patients who lost overall body weight but gained muscle mass had a higher survival rate. Many dialysis patients with PEW experience a lower quality of life due to poor limb strength, low endurance and impaired muscle power. Worsening of walking speed and grip strength, associated with loss of muscle mass, have been shown to be effective predictors of mortality.

Albumin is the most abundant protein circulating in the blood, and a sensitive indicator of the body's nutritional status. In dialysis patients, a decline in serum albumin indicates a serious overall protein wasting state. In these patients, the ability to predict mortality risk is associated with the presence of muscle wasting or inflammation.

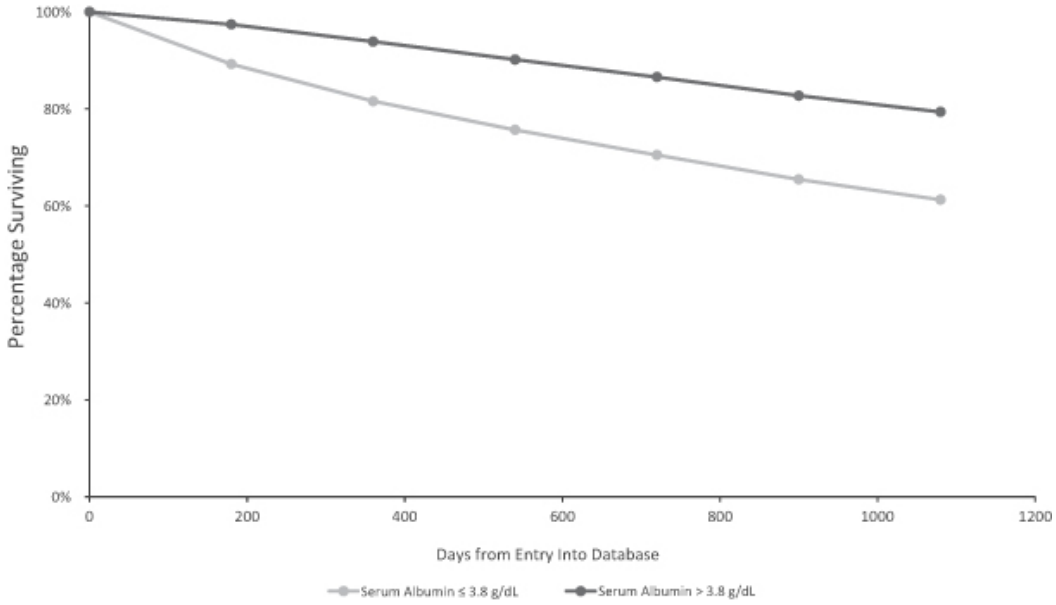
DaVita Study

In order to better understand the market opportunity for PEW therapies in dialysis patients, we collaborated on a study of PEW in dialysis patients with DaVita. DaVita has collected data on over 130,000 renal patients including those enrolled in over 300 clinical trials worldwide in order to better understand the pathology and clinical course of kidney disease. The resulting database is a unique and powerful resource that allows for fast understanding of the disease state and the impact of treatments in kidney disease.

Using the DaVita dialysis database, we were able to characterize patients for the PEW condition and identify those patients at higher risk of morbidity and mortality. We analyzed 56,350 DaVita dialysis patients who began treatment at DaVita between 2009 and 2012 and had at least six months of dialysis. We then followed these patients from the time they entered the database for 1,200 days or until they died or were lost to follow-up. Of these patients, 54% had a serum albumin level less than or equal to 3.8 g/dL six months after beginning dialysis. Among these, approximately 11% of patients died within one year compared to less than 3% of patients whose serum albumin was higher than the 3.8 g/dL dialysis threshold. At the three-year mark, approximately 40% of patients with low serum albumin who had been followed for three years had died in comparison with roughly 21% of patients who had been followed for three years with serum albumin levels above the critical threshold six months after beginning dialysis. We believe that patients with PEW represent a significant cost to the

healthcare system. We and DaVita are currently pursuing health economic studies in order to quantify this cost, comparing treatment for those who have PEW to those who do not.

Survival Rates Based Upon Serum Albumin Levels



PEW Market Opportunity

Based on data from the US Renal Data System, we estimate that the current total US dialysis population, excluding patients who had successfully received kidney transplants, is 460,000 patients. Of these patients, we estimate that approximately 250,000 patients suffer from PEW. Worldwide, we believe that more than 800,000 patients suffer from PEW.

Limitations of Current Therapies for PEW

There are no pharmacologic therapies approved by the FDA indicated for PEW. Furthermore, we are not aware of any such therapies in clinical trials for PEW that target myostatin. Current treatment options for muscle wasting include appetite stimulants, nutritional support, corticosteroids, anabolic steroids and human growth hormone. Dietary supplements containing 10 grams of protein or more per day are recommended for PEW patients by consensus guidelines. Long term stabilization of lean body mass, muscle mass or serum albumin levels in patients showing symptoms of PEW or related conditions such as cancer cachexia have not been observed through dietary changes or nutritional supplements.

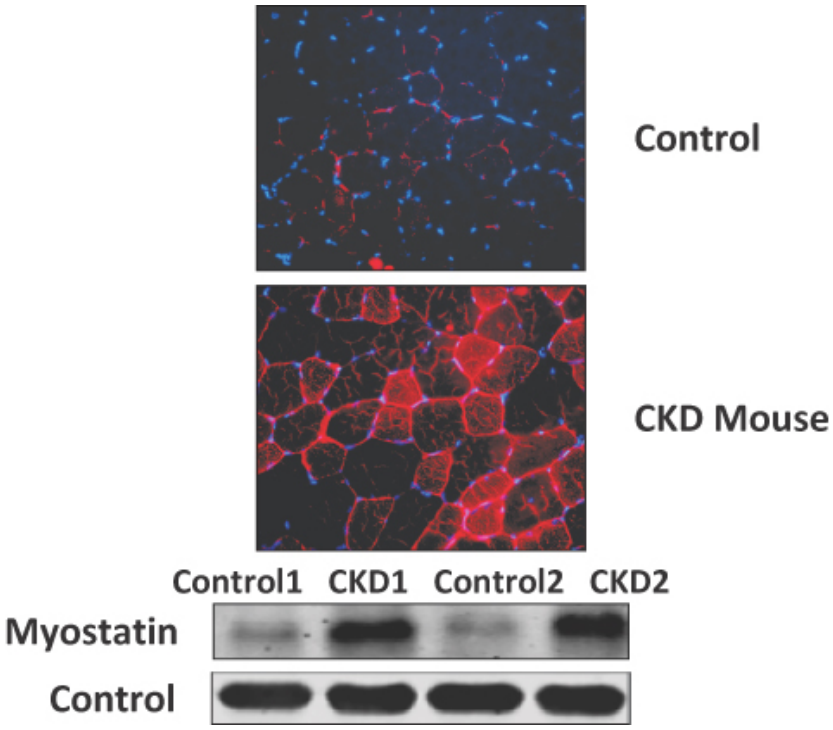
Biology of Myostatin

Myostatin, a member of the TGF-ß superfamily of growth factors, is highly expressed in skeletal muscle and fat tissue. It acts as a negative regulator of muscle growth and appears to promote fat gain. Through knockout experiments and observation of naturally occurring knockouts of myostatin in mice, cattle, dogs, as well as a human being, there is a body of evidence supporting the role of

myostatin in regulating muscle growth. In particular, myostatin has been shown to inhibit the growth of new muscle stem cells as well as play a part in the destruction of muscle through the NF-κB pathway. Animals and humans born without a functioning myostatin gene exhibit muscle overgrowth while otherwise showing no apparent negative effects.

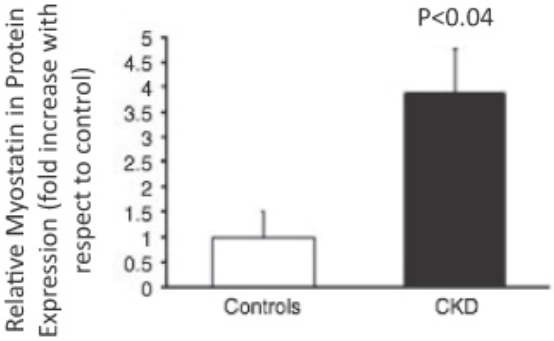
Myostatin inhibition was first characterized and evaluated in the mid-1990s as a potential mechanism for limiting muscle wasting. Several proof-of-concept studies have shown the ability of myostatin inhibitors to build muscle. Several other companies are pursuing myostatin inhibitors for other conditions, including cancer cachexia, Duchenne Muscular Dystrophy and orthopedic indications.

Preclinical studies have shown that myostatin is upregulated, or increased, in the skeletal muscle of mice suffering from CKD. One such study, published in the *FASEB Journal* in 2011, is shown below.

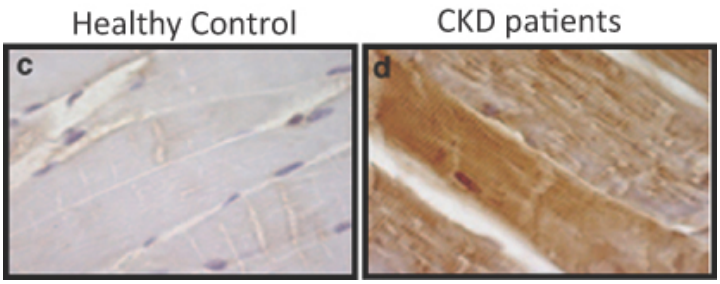


In the two upper images, myostatin upregulation is shown by fluorescence in the muscle cells of a CKD mouse compared to a control mouse. In the two lower images, myostatin protein expression levels are shown in the muscle cells of two CKD mice compared to control mice.

The following charts and images from a study published in *Kidney International* in 2011 show that myostatin is upregulated in skeletal muscle taken from dialysis patients. This was observed both quantitatively and when a thin slice of muscle tissue was examined under a microscope, or histologically.



The p-value is a measure of the likelihood that the data observed are from chance instead of due to the effects of the drug tested. The smaller the p-value, the stronger the likelihood that the data observed resulted from the drug tested rather than from chance. By convention, p-values less than 0.05 are considered significant, indicating a high degree of confidence that the result is due to therapy with the drug and not to chance.



In the upper graphs, myostatin RNA and protein levels are increased in CKD patients compared to healthy controls. In the lower images, myostatin in muscle stains dark in CKD patients compared to healthy controls.

Mechanism of PINTA 745

PINTA 745 is a peptibody, a peptide-antibody combination. The peptide component binds to myostatin, preventing it from docking with its receptors on the surface of muscle cells and blocking its role in inhibiting muscle production and maintenance. Peptibodies, as a class of therapeutics, are well-characterized, with one product on the market and several more, including PINTA 745, in clinical trials. Compelling features of the PINTA 745 peptibody are:

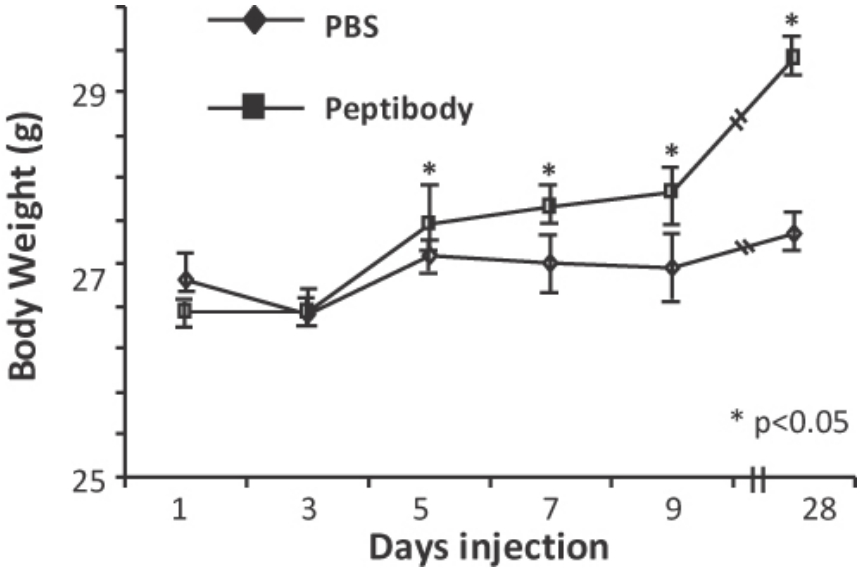
- Its half-life, which at four days is considerably shorter than the typical therapeutic antibody half-life of two to four weeks. The shorter half-life of PINTA 745 means that its blood levels can be more tightly controlled by the physician while conveniently aligning with dialysis treatment schedules, which we believe is particularly important in the ESRD patient population given change in patient weight.
- Anti-inflammatory properties, a factor that we believe will be important due to the critical role that inflammation plays in PEW and the overall declining health of ESRD patients.

We believe that the mechanism and pharmacologic properties of PINTA 745 are well-suited to the PEW setting. Preclinical and clinical data describing the effects of PINTA 745 are discussed below.

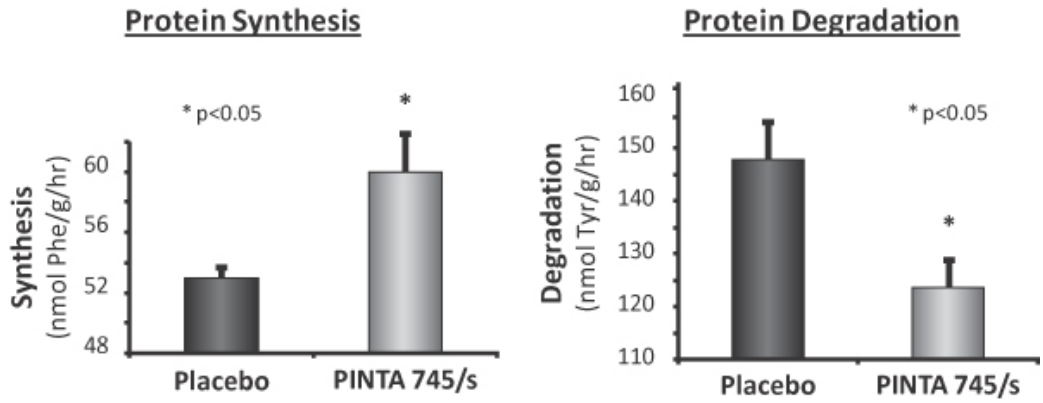
Preclinical Studies

A preclinical study was conducted to determine PINTA 745's effect in mouse models of ESRD. In the 5/6-nephrectomy model, a mouse model considered to be the industry standard for studying ESRD and its related effects, a version of PINTA 745 developed for mice, which we refer to as PINTA 745/s, was shown to reverse body weight loss and reduce skeletal muscle mass and inflammation, which are morbidities associated with PEW. Nephrectomized mice, which have a condition mimicking ESRD and are referred to as CKD mice, and control mice of comparable size and blood urea nitrogen levels were injected either with PINTA 745/s or with saline. The experimental mice were injected subcutaneously at 5.0 mg/kg every other day for 7 to 28 days.

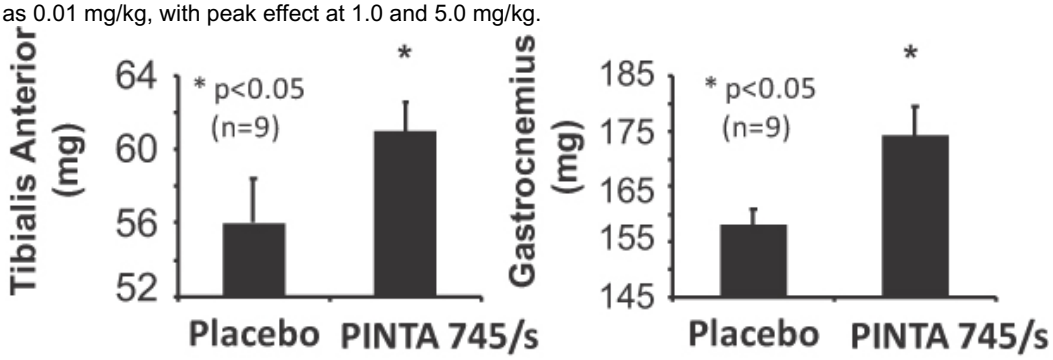
After seven days of PINTA 745/s treatment, the body and muscle weights of the CKD mice increased significantly compared with those in saline-treated CKD mice, an effect that persisted over 28 days.



Protein synthesis—as measured by the uptake of a radiolabeled amino acid tracer—was increased and protein degradation—as measured by the release of a different amino acid tracer—was inhibited. This data underscores PINTA 745/s' role in both forming new muscle and hindering the destruction of existing muscle.



Further, PINTA 745/s increased muscle mass in the two muscles tested after seven days of treatment, the tibialis anterior and the gastrocnemius, an effect that continued over 28 days. In other preclinical studies, increases in muscle mass were observed in mice in doses as low as 0.01 mg/kg, with peak effect at 1.0 and 5.0 mg/kg.



In CKD mice, circulating levels of 10 cytokines, which are mediators of inflammation, were increased in comparison to control mice. PINTA 745/s treatment for seven days decreased the level of these cytokines, suggesting that myostatin inhibition affects CKD-induced inflammation. The five cytokines shown below were the ones that were statistically significantly reduced in CKD mice treated with PINTA 745/s as compared to CKD mice treated with placebo.

Cytokine	Control Mice (pg/ml)	CKD Mice Treated with Placebo (pg/ml)	CKD Mice Treated with PINTA 745/s (pg/ml)	P Values	
				CKD Mice vs. Control Mice	CKD Mice Treated with Placebo vs. CKD Mice Treated with PINTA 745/s
Fibrinogen (µg/ml)	156.75 ± 34.87	2877.5 ± 1007.68	323.25 ± 306.50	0.0016*	0.003*
IFN- γ (pg/ml)	16.15 ± 5.04	17.55 ± 2.58	12.57 ± 2.66	0.638	0.036*
IL-6 (pg/ml)	5.8 ± 0.48	10.48 ± 2.23	3.05 ± 0.73	0.041*	0.036*
M-CSF-1 (ng/ml)	7.31 ± 2.51	11.61 ± 2.08	7.48 ± 1.0	0.039*	0.012*
TNF- α (ng/ml)	0.1 ± 0.06	0.151 ± 0.03	0.075 ± 0.04	0.189	0.033*

* Statistically significant.

Based on these observations, we believe that PINTA 745 has the potential to mitigate the effects of PEW in ESRD patients by increasing muscle formation, stimulating the conversion of muscle stem cells into muscle cells, and decreasing muscle destruction. Furthermore, we believe that PINTA 745 has the potential to decrease inflammation in ESRD patients with PEW, which is an important potential factor often observed with greater morbidity and mortality.

PINTA 745 Phase 1 Clinical Studies — Safety and Tolerability

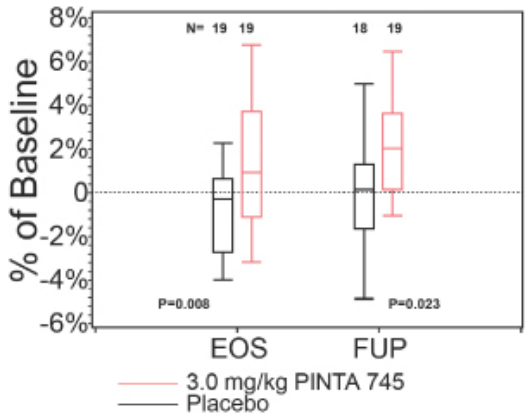
To date, three Phase 1 studies of PINTA 745 have been conducted, two in healthy volunteers and one in prostate cancer patients. PINTA 745 showed both safety and tolerability in all three Phase 1 studies. Across all studies, which enrolled a total of 151 subjects, 48 subjects were exposed to the highest subcutaneous dose of 3.0 mg/kg and no treatment-related serious adverse events were observed. In the healthy volunteer trials, there were observations of some adverse events, mild in severity, that were not dissimilar to those observed in the placebo control group. No serious adverse events, discontinuations due to adverse events or deaths were reported in these trials. The only identified risk from the trials was injection site reactions, which can occur with agents dosed subcutaneously. In the Phase 1 study in prostate cancer patients, events were also mild in severity and similar in the PINTA 745 and placebo groups; one serious adverse event was reported that was considered not related to the drug. As a result, PINTA 745 showed acceptable levels of safety and tolerability.

PINTA 745 Phase 1 Study in Prostate Cancer Patients

A multidose, placebo-controlled, double-blind Phase 1 study of PINTA 745 was carried out by Amgen on 54 men with prostate cancer who were receiving androgen deprivation therapy. This trial assessed both safety and efficacy following four weekly subcutaneous injections. Three Phase 1 dose groups were studied at dose levels of 0.3 mg/kg, 1.0 mg/kg and 3.0 mg/kg, with one placebo arm. This study was published in 2014 in *The Journal of Clinical Endocrinology and Metabolism*.

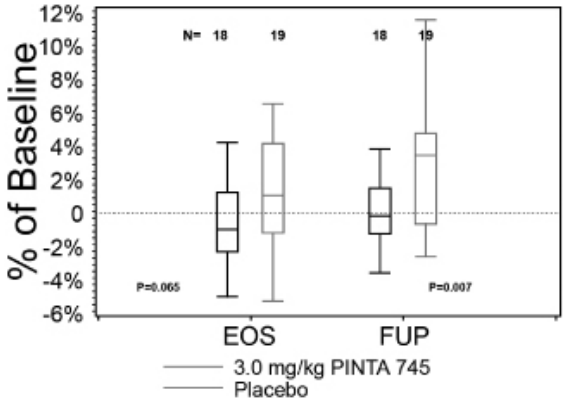
Efficacy parameters that were measured in this study included lean body mass as measured by dual energy X-ray absorptiometry, or DEXA, and lower-extremity muscle size as measured by CT scan. These methods are considered industry standard imaging techniques for measuring muscle mass or volume. Formal statistical testing for efficacy was conducted in the 3.0 mg/kg group. These statistical tests were not performed in the 0.3 mg/kg group and the 1.0 mg/kg groups because fewer patients were treated at these dose levels than were required for such analyses.

Lean body mass increased significantly in the 3.0 mg/kg dose group. The difference in lean body mass in the PINTA 745 group compared to the placebo group was approximately 2% greater at the end of the treatment period, a difference that increased over the subsequent four weeks of observation after the cessation of treatment, as shown in the following chart. Measurements for both placebo and PINTA 745 were taken at end of study, or EOS (at day 29), and at follow up, or FUP (one month after day 29). There was a statistically significant increase in lean body mass at both EOS and FUP for the active arm compared to the control arm. Notably, lean body mass increase persisted at FUP, even without administration of the drug during the follow-up period.



The bottom and top of the boxes represent the first and third quartiles, and the horizontal band inside the box indicates the median value. The ends of the whiskers indicate the minimum and maximum data in the range of observations.

As measured by CT scan, lower extremity muscle size increased significantly in the 3.0 mg/kg group. The muscle size increased in this group by approximately 1.2% at EOS, and further increased to 2.7% from baseline at FUP.



The bottom and top of the boxes represent the first and third quartiles, and the horizontal band inside the box indicates the median value. The ends of the whiskers indicate the minimum and maximum data in the range of observations.

Body fat decreased by 1.7% (p=0.021) in the 3.0 mg/kg group at the end of the treatment period compared to baseline, and the decrease was similar (1.5%, p=0.183) four weeks after the cessation of treatment. The decrease in body fat may reflect the presence of myostatin receptors in fat tissue. Reduced fat mass is an expected pharmacologic finding of myostatin inhibition, observed in multiple preclinical studies using PINTA 745/s as well as in three studies reported in the literature in which ActR2B-Fc fusions were used to inhibit myostatin. All of these studies, published in the *International Journal of Obesity* in 2009, the journal *Endocrinology* in 2012 and the journal *Diabetologia* in 2012, observed reduced fat accumulation in high fat fed mice.

In exploratory efficacy analyses comparing treatment effect and exposure across the dose groups, the 3.0 mg/kg dose appeared to have more impact on lean body mass than the lower doses,

which suggests that humans exhibit dose-responsive efficacy from treatment with PINTA 745. This will be investigated in our ongoing clinical trial.

This trial was carried out in a rigorous setting in order to highlight the properties of PINTA 745. We believe that the results were clinically meaningful for the following reasons:

- The increase in muscle mass was statistically significant against the placebo group, with gains of 2% or more observed in response to treatment with PINTA 745.
- The increase in muscle mass was seen after only one month of weekly dosing and persisted beyond treatment (one month following EOS).
- The patients participating in this study were suffering from prostate cancer, which is associated with significant muscle loss. Historical control patients lost as much as 4% of muscle mass over a 12-month period, based on a study published in the journal *Urology* in 2004.

Design of Ongoing Phase 2 clinical trial of PINTA 745 in ESRD patients with PEW

Our ongoing, randomized, double-blind, placebo-controlled trial with PINTA 745 is designed to demonstrate the effect of myostatin inhibition in PEW and lay the foundation for future clinical development. The study will enroll 40 patients, who will be randomized three-to-one (PINTA 745-to-control). PINTA 745 will be given for three months, and then patients will participate in a two month observation period to assess the durability of changes in muscle and inflammation. The primary endpoint of the trial is change in muscle mass seen through radiographic studies at three months versus the control group.

In the current Phase 2 trial in dialysis patients, we are seeking to reproduce and further characterize the muscle-building effect that was observed in prostate cancer patients in the Phase 1 study. To this end, we have made several key changes to the protocol to gain more insight regarding the efficacy and durability of responses.

Design Element	Prior Phase 1 (Prostate)	Current Phase 2 (PEW)	Rationale
Duration of Therapy	1 month	3 months	Longer term dosing may enhance muscle growth
Dose of PINTA 745	0.3, 1.0 and 3.0 mg/kg	3.0 and 10.0 mg/kg	Higher dose may be more effective and the safety profile may be similarly well-tolerated
Duration of Follow Up	1 month	2 months	Extends information on durability of effect
Route of Administration	Subcutaneous injection	Intravenous injection	Enhances drug exposure and aligns with routine patient management in the dialysis setting

We also have included two functional muscle assessments as secondary endpoints that were not included in the Phase 1 studies. We will be using stair climbing power and six-minute walk tests in order to identify the appropriate parameters to use for physical function testing in future trials. These assessments have become significantly more common in clinical trials and have formed the basis for regulatory approvals of other agents in different indications. Because these assessments were developed for other patient groups of similar age and functional muscle status, such as patients

recovering from a heart attack, we believe that these endpoints are appropriate for use in this population. Once we have demonstrated their feasibility, we may choose one or both of these physical functional assessments for endpoint data in later-stage clinical trials.

Other assessments in the trial include:

- Demonstration of the feasibility of quality of life assessments, such as the kidney disease quality of life assessment as well as assessments of fatigue and anorexia/cachexia.
- Safety monitoring and exposure, including pharmacokinetics, or PK.
- Effects on the duration of use and dose intensity of supportive care drugs.

Given the robust design features of the Phase 2 trial protocol, we believe that if this trial is successful, it will confirm the potential clinical utility of PINTA 745 in this patient population and help us appropriately design subsequent clinical trials to support applications for regulatory approval.

The design of our Phase 2 trial was created not only to support eventual regulatory approval but also to be able to pilot the assessments that will be needed to obtain reimbursement. For that reason, we chose trial sites that effectively reflect the etiology of ESRD in the United States. Our six sites include academic sites, as well as those associated with DaVita and Fresenius. These centers are representative of the vast majority of the US dialysis market.

Biomarker Approach

As part of our Phase 2 clinical trial protocol, we are measuring serum levels of myostatin in patients to see if we can use it as a biomarker to predict which patients will respond best to treatment.

Additional Opportunities for PINTA 745

We designed the Phase 2 trial to give us insight into potential additional markets for PINTA 745. Those markets could include: orthopedic indications; inflammation and inflammatory disease; age-related sarcopenia; and cancer cachexia. In each of these conditions, we believe muscle growth and reduction in inflammation resulting from treatment with PINTA 745 could lead to better outcomes.

STM 434, a Targeted Therapy for Ovarian Cancer and Potentially Other Solid Tumors

STM 434 has an open IND and we expect to commence a Phase 1 clinical study in ovarian cancer and other solid tumors in the second half of 2014. This IND was filed in April 2014 by our wholly owned subsidiary Santa Maria. STM 434 is a soluble ActR2B receptor-IgG fusion protein that binds the signaling molecule human activin. STM 434 has the potential to be the first product to target tumor growth and proliferation by inhibiting multiple ActR2B ligands, including Activin A. A ligand is a protein that binds a receptor on a cell to trigger a signal. In ovarian cancer, Activin A is a novel and promising target. Published data, including a study in *Clinical Cancer Research* in 2008, as well as our preclinical data, suggest that Activin A is upregulated in patients with ovarian cancer, and blocking it reduces proliferation of tumor cells. In many solid tumor types, upregulation of Activin A is correlated with poorer prognoses.

Ovarian Cancer

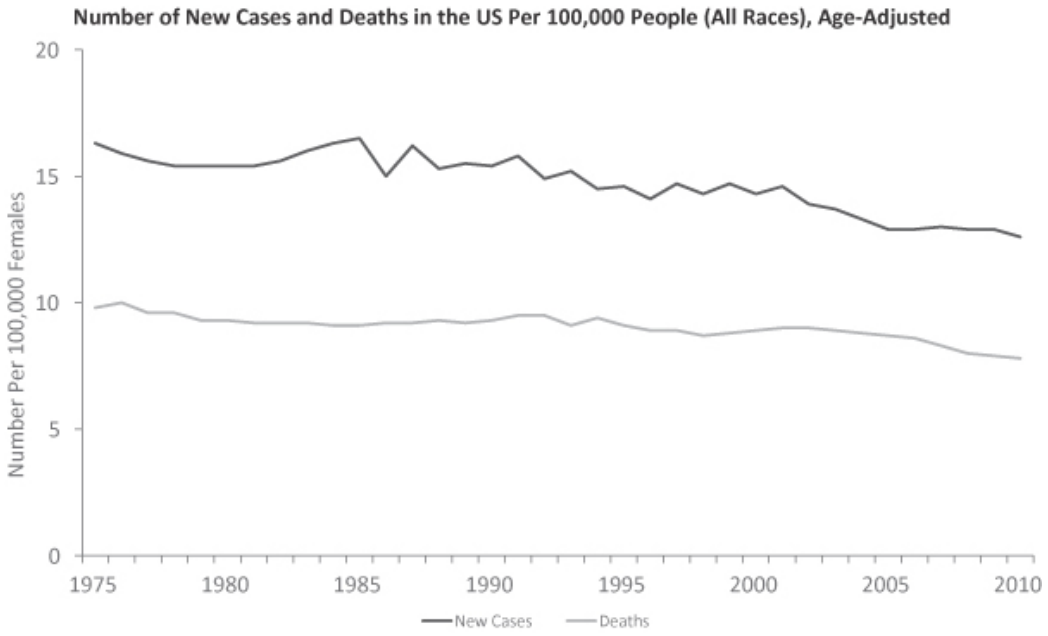
Ovarian cancer is the fifth leading cause of cancer death in women in the United States. According to the National Cancer Institute, there were an estimated 22,240 new ovarian cancer cases and 14,030 ovarian cancer deaths in the United States in 2013. Surgery and cytotoxic chemotherapies are widely used to treat ovarian cancer; however, the outcomes have changed little in 40 years. There were estimated to be approximately 186,000 women suffering from ovarian cancer in the United States in 2010. According to the American Cancer Society, based on patients diagnosed between 2003 and 2009, the blended five-year survival rate is only 44% for ovarian cancer patients overall.

Ovarian cancers are divided into three distinct main subtypes:

- Serous adenocarcinoma, which accounts for approximately 63% of ovarian tumors in the United States.
- Clear cell cancers, which account for approximately 11% of ovarian tumors in Western countries and a higher percentage in Asian countries. For example, clear cell cancers have been reported to account for approximately 23% of ovarian tumors in Japan.
- Granulosa cell tumors, which account for approximately 2 to 5% of ovarian tumors in the United States.

Limitations of Current Therapies for Ovarian Cancer

Despite the strong unmet need for better therapies, there have been few new treatment options introduced, and numerous studies, including a 2012 study published in *Obstetrics & Gynecology*, have shown that clinical outcomes have not improved significantly for several decades.



Source: National Cancer Institute.

First Line Treatment

Surgical therapy for ovarian cancer that has not escaped the ovary can be curative. In other cases, palliative debulking surgery is often considered. However, for women with advanced or recurrent tumors that have escaped the ovary and involve critical anatomic structures, there are no curative therapies, and chemotherapy is generally employed. When chemotherapy is indicated, treatment for these subtypes may vary but are generally based on a foundation of platinum chemotherapy. Response rates and outcomes vary among subtypes.

- Serous tumors have a reported response rate to chemotherapy of 72 to 73%, according to a 2005 study in the journal *Clinical Cancer Research*; however, most patients relapse, resulting

in a median survival of approximately 40.8 months, according to a 2010 publication in the *International Journal of Gynecological Cancer*.

- Clear cell tumors have a platinum-based chemotherapy response rate of approximately 11% as reported in a 2006 study in the *British Journal of Cancer*. Median overall survival in patients with clear cell tumors is approximately 21.3 months.
- The data on post-surgery response rates to chemotherapy in the granulosa subtype of ovarian cancer is limited due to its rarity.

Recurrent Disease Treatment

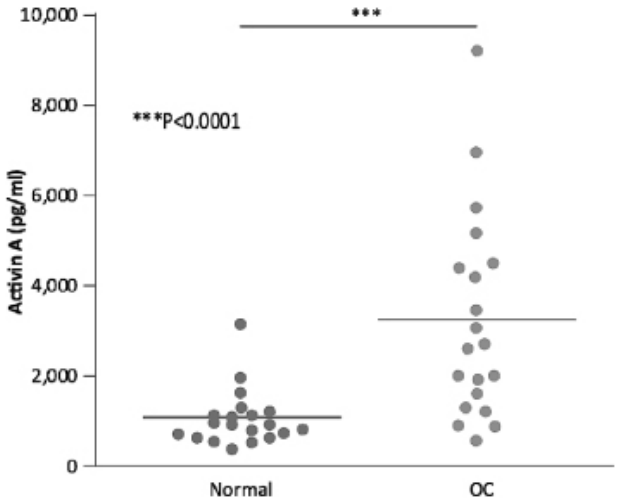
For patients whose tumors did not respond to first line therapy, or for those whose tumors became unresponsive to platinum chemotherapy, a number of other chemotherapy options may be applied, including liposomal doxorubicin, topotecan and gemcitabine. Despite these therapies, the median survival of platinum chemotherapy resistant ovarian cancer is approximately 13 months.

Role of Activin A in Ovarian Cancer and Other Solid Tumors

Activin A, a secreted growth factor, is a member of the TGF-ß superfamily of growth factors, which also includes Activin B, Activin AB, GDF-11 and others. Activin A is widely understood to be involved in the growth and proliferation of ovarian cancer and other solid tumors. Some of the other secreted proteins in this superfamily, including Activin AB, have also been implicated in the growth of these tumors. As reported in *BMC Medical Genomics* in 2010, overexpression of Activin A in support cells called stroma is a key component of a metastasis-associated gene expression signature. This signature predicts shortened survival across a number of cancers including, among others, ovarian, gastric and breast cancers. Over-expression of Activin A is now recognized as a common feature across advanced solid tumors including head and neck, colon, gastric, esophageal, pancreatic and non-small cell lung cancer. In addition to their role in regulating interactions between epithelial cells and stromal cells, activins may also be involved in regulating stem cell survival.

Activin A has been found to play a role in the three principal subtypes of ovarian cancer: serous, clear cell and granulosa. For example, the mRNA precursor for activin has been found to be upregulated in approximately 30% of specimens of serous ovarian cancer. At the protein level, as published in 1997 in the *Journal of Clinical Endocrinology and Metabolism*, most typical serous ovarian cancers made serum Activin A.

Many women with ovarian cancer have high levels of activin A. The utility of high activin A in ovarian cancer will be explored in the phase 1 study.



Genetic Linkages to Ovarian Cancer Subtypes

In a genetic link between the activin pathway and ovarian cancer, mutations in the BRCA gene have been found in 5 to 10% of serous ovarian tumors. According to a 2012 publication in the journal *PloS One*, these patients with BRCA mutations fail to produce the Activin A counter-regulators follistatin and inhibin, implying that these tumors may be unable to switch off activin signaling.

In clear cell ovarian cancer, studies have shown that mutations in the ARID1A gene contribute to tumor proliferation. Specifically, these mutations drive upregulation in the signaling cascade triggered by the ActR2B receptor. Mutations in the ARID1A gene were present in 55 of 119 (46%) and 17 of 31 (55%) ovarian clear cell tumors, as reported in a 2010 publication in *The New England Journal of Medicine* and a 2014 publication in *BMC Cancer*, respectively. We believe that increased levels of activin mimic the effect of ARID1A mutations, and therefore play a similar role in clear cell ovarian cancer.

In granulosa cell ovarian cancer, mutations in the FOXL2 C134W gene have been suggested in several studies to drive the growth of tumors. This mutation was present in 97% (86 of 89) of granulosa cell tumors as reported in a 2009 publication in *The New England Journal of Medicine*. In a normal cell, activin is under tight control—FOXL2 protein turns on follistatin when an activin signal is received, and follistatin, a natural inhibitor of activin, then shuts off the activin signal. However, in granulosa cell tumors, mutant FOXL2 C134W is not able to turn on follistatin, and activin signals continue unchecked. These studies have been reported in 2014 in the journal *Biochemical and Biophysical Research Communications* as well as in 2013 in the journal *Molecular and Cellular Endocrinology*.

Mechanism of Action of STM 434

We believe that STM 434 has the potential to be the first product to address directly the underlying biology of ovarian tumors. Activin A is known to act through the ActR2B receptor on the surface of ovary cells. When the receptor receives the signal from Activin A, it initiates a cascade of gene transcription that leads to abnormal cell proliferation, cell migration, blood vessel formation and

inhibition of programmed cell death. STM 434 is a ligand trap, which mimics the ActR2B receptor, binding Activin A and other ligands that would normally activate this receptor. Several ligand traps based on other receptors have been developed as therapeutic products and commercialized successfully. The choice of a ligand trap for STM 434 conforms mechanistically with the goal of binding Activin A and other secreted proteins associated with the ActR2B receptor and tumor growth.

STM 434 has a half-life of one to two weeks in monkeys. We believe that it will have a similar half-life in humans, suggesting that STM 434 could be dosed every four weeks. This dosing schedule would align well with the current predominant protocols for administering chemotherapy in both the first-line and the second-line setting in ovarian cancer.

Preclinical Studies

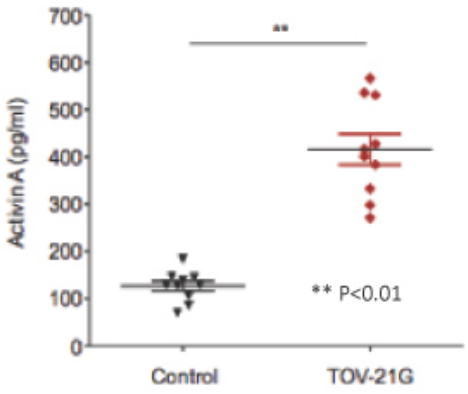
Preclinical testing of STM 434 was designed to confirm and quantify its effects in binding Activin A and other ligands with a receptor-like ligand trap. These studies were conducted with STM 217, a close analog of STM 434, which we refer to as STM 434/s. In addition, these studies were carried out in two types of mouse models: TOV-21G mice, which are analogous to patients with clear cell ovarian tumors and carry ARID1A mutations, and inhibin knockout mice, which are analogous to patients with granulosa cell tumors.

Results of the TOV-21G study have shown that blocking Activin A by using a soluble receptor, as both a single therapy and in combination with chemotherapy, led to a reduction in tumor size. In other experiments, knockout mice that were born without inhibin, and therefore had high activin levels that led to granulosa cell ovarian tumors, survived longer after treatment with STM 434/s in comparison to untreated mice. A 2007 publication in the journal *Molecular Human Reproduction* showed that the survival of the knockout mice was greatly improved when they were treated with an ActR2B-Fc fusion similar to STM 434. Other mouse tumor models tested, including renal cell carcinoma, melanoma and small cell lung cancer were shown to be sensitive to activin levels and antitumor responses were seen when activins were inhibited.

TOV-21G Mouse Models (Clear Cell Ovarian Tumors)

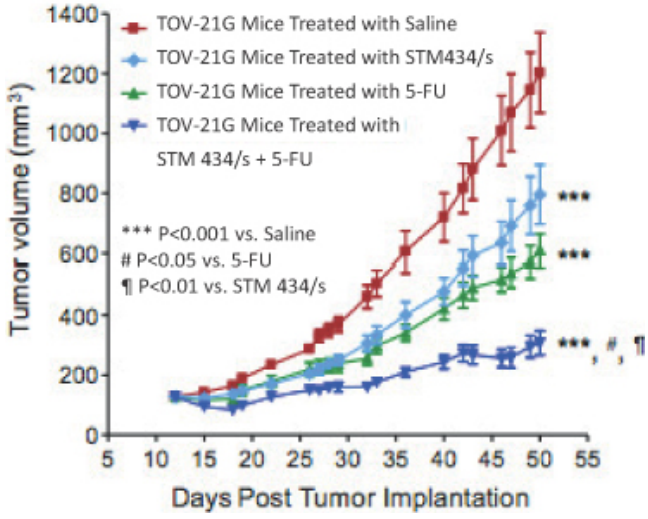
In a preclinical study using TOV-21G mice, tumors derived from human clear cell ovarian carcinoma were shown to have high levels of serum Activin A, analogous to those observed in human ovarian cancer patients as described above.

Serum Activin A

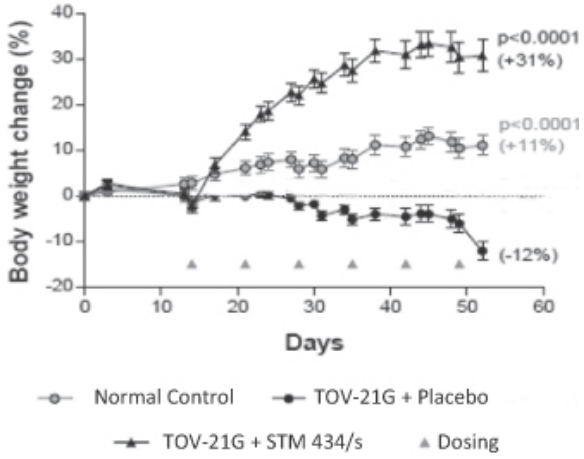


In a subsequent preclinical study that we presented together with Amgen at the American Society of Clinical Oncology meeting in Chicago in 2013, we evaluated STM 434/s in this TOV-21G model used as both a single agent and in combination with the chemotherapy agent 5-fluorouracil, or 5-FU. STM 434/s was administered subcutaneously weekly at 10.0 mg/kg beginning on day 12. 5-FU was administered for three cycles. The tumor was measured two to three times per week, up to day 52. Results from these experiments showed a statistically significant reduction in tumor volume for the agent. Results of the combination experiments showed an additive reduction in tumor growth.

Additive Effect with 5-FU



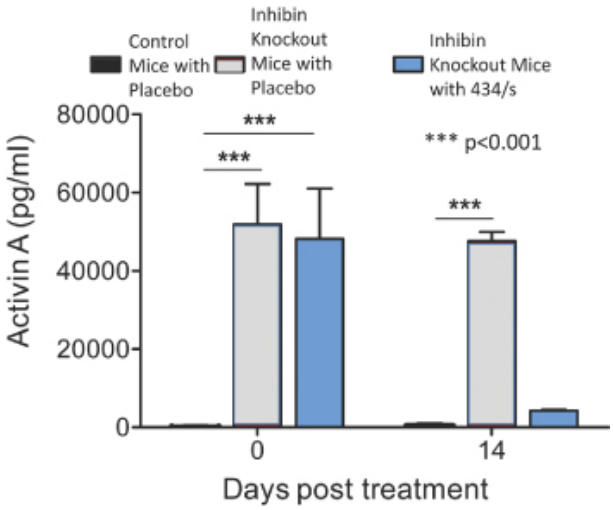
In addition, this study examined the anticachectic effects of STM 434/s in this model. Cachexia is a condition associated with significant weight loss often seen in patients with solid tumor cancers. The results of this study showed that the administration of STM 434/s increased body weight of the mice. In addition to demonstrating the antitumor properties of STM 434/s, we believe that this data also demonstrates that an ActR2B soluble receptor may provide an additional benefit to patients by addressing cancer cachexia. We intend to investigate these attributes as part of our planned Phase 1 clinical study.



Results from these experiments showed a statistically significant (31%, p<0.0001) reduction in tumor volume for the agent. Results of the combination experiments showed an additive (73%, p<0.0001) reduction in tumor growth.

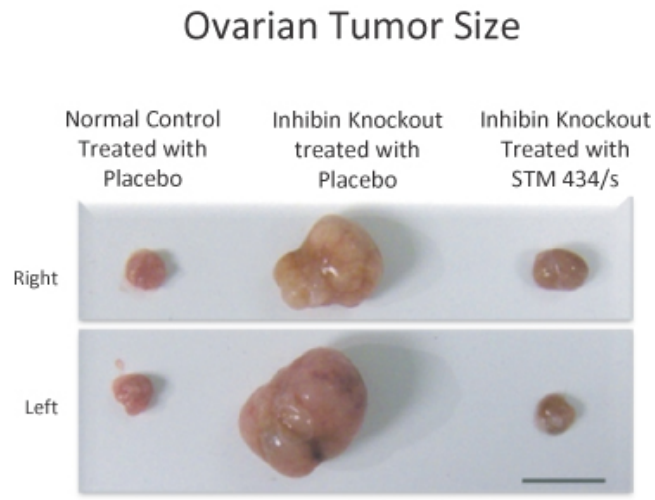
Inhibin Knockout Mouse Model (Granulosa Cell Tumors)

For granulosa cell studies, a knockout mouse model was used with STM 434/s. The study showed that serum Activin A levels in the knockout mice were elevated, and upon treatment with STM 434/s Activin A levels were significantly reduced.

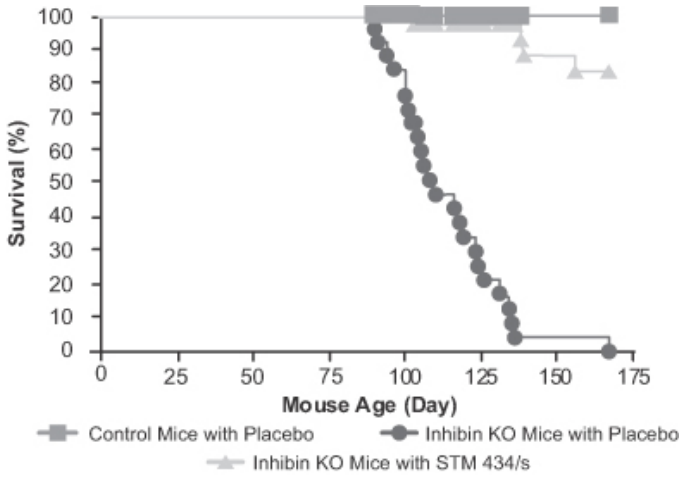


STM 434/s treatment reduced the elevated circulating Activin A in the inhibin knockout mice to the levels in control mice. Serum Activin A was measured before and 14 days after treatment.

Further, this study showed that treatment with STM 434/s reduced ovary size to near normal in comparison to control mice treated with saline. A representative example of the observed reduction in size is shown below. In this study, STM 434/s was administered as a single dose of 30 mg/kg.



Lastly, the knockout model treated with STM 434/s showed a statistically significant ($p<0.0001$) improvement in survival with 90% (20 of 22 mice) alive at 133 days of age, as compared to knockout mice treated with saline, where 96% (23 of 24) had died by this time.



Phase 1 Clinical Study in Ovarian Cancer and Other Solid Tumors

We expect to commence an open-label Phase 1 study of STM 434 in the second half of 2014 in up to 66 patients, assuming all cohorts are expanded to the maximum number of patients allowed. The dosing schedule for this study is once every four weeks. This study is being conducted in three parts:

- ***Part 1*** — Dose escalation study in patients with advanced solid tumors. Dosing initiated at 0.25 mg/kg. We plan to test up to the maximum tolerated dose, or MTD. Assuming no MTD is reached, we will test ascending doses of 0.5, 1.0, 2.0 and 4.0 mg/kg.
- ***Part 2*** — Designed to obtain additional safety and exploratory efficacy data in patients with advanced ovarian cancer, including clear and granulosa cell tumors.
- ***Part 3*** — Designed to study STM 434 in combination with chemotherapy in patients with ovarian cancer who have received prior treatment.

The objectives for our Phase 1 study are: to test if STM 434 monotherapy is safe and well tolerated; to obtain preliminary efficacy data in ovarian cancer and other solid tumors; to assess safety and preliminary efficacy of STM 434 with liposomal doxorubicin chemotherapy or the current standard of care; and to explore biomarkers predictive of response to treatment. Further objectives include collecting pharmacokinetic data during therapy with STM 434 and defining the recommended Phase 2 dose.

Based on data supporting the role of activin in the progression of other solid tumors and the inclusion criteria, we expect that two thirds of the patients included in the dose escalation portion of the Phase 1 study will have solid tumors in organs other than the ovary. A portion of the other tumors may include pancreas, stomach and kidney tumors, where there is a high correlation between Activin A upregulation and the severity and outcome of disease. We expect to release initial data from this Phase 1 clinical study in the first half of 2016.

Biomarker Approach

Activin expression is one of a few biomarkers associated with severity in a variety of tumors including ovarian tumors. For this reason, Activin A is one of 12 genes that are measured in colon cancer as part of the clinically validated OncotypeDX colon cancer panel. Our Phase 1 study will test whether high levels of Activin A measured at baseline before patients receive STM 434 predict whether they respond to treatment. If levels of Activin A can predict response, this biomarker may be valuable in late phase trials to optimize the trial design and maximize the proportion of patients who respond to STM 434.

In addition, we will be measuring follicle-stimulating hormone, or FSH, levels, a routine laboratory test, to determine the inhibition of activin by STM 434. It is well established that activin negatively regulates FSH, and we therefore can use FSH reduction as a surrogate for activin inhibition.

Pipeline

Our pipeline currently consists of five product candidates in addition to PINTA 745 and STM 434. The members of this initial portfolio are closely related to one another in terms of the biology and align with our in-house expertise regarding development, manufacturing, intellectual property strategy and other critical activities. These products share association with the TGF-ß superfamily of growth factors. At the same time, they represent distinct modes of intervention with potentially different therapeutic applications. These distinctions relate to target specificity, pharmacokinetic/pharmacodynamic relationships and modality. We believe these molecules have unique characteristics, and, in some cases, demonstrated activity in preclinical studies, which would make them attractive candidates for various indications, including cancer cachexia, a condition that is implicated in up to 30% of cancer deaths with limited existing treatments. We are evaluating these molecules to determine the best path forward. Where appropriate, we intend to conduct preclinical studies and file IND applications with regulatory authorities for these candidates.

Our research stage programs include:

- *ATA 842*, a humanized antibody targeting myostatin designed to be more selective than similar programs in the clinic targeting oncologic, orthopedic and renal indications;
- *ATA 777*, a fully human antibody targeting Activin A, which we believe will be well suited for non-oncology indications where chronic dosing and specificity to Activin A is beneficial;
- *ATA M43*, a fully human anti-ActR2A/2B monoclonal antibody with high affinity to both receptors that is mechanistically similar to programs targeting muscle wasting diseases;
- *STM 217*, a soluble ActR2B receptor-IgG Fc fusion protein and a close analog of STM 434; and
- *ActR2B5*, a soluble ActR2B receptor that can be fused to an IgG Fc receptor.

Competition

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. While we believe that our innovative technology, knowledge, experience and scientific resources provide us with competitive advantages, we face potential competition from many different sources, including major pharmaceutical, specialty pharmaceutical and biotechnology companies, academic institutions and public and private research institutions. Some of these potential competitors may have a more established presence in the market and significantly greater financial, technical and human resources than we have. Our commercial opportunity will be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer side effects or are less expensive than any products that we may develop.

If approved, PINTA 745 or STM 434 would compete with currently marketed drugs and therapies used for treatment of the following indications, and potentially with drug candidates currently in development for the same indications:

Muscle Wasting-Related Indications

There currently are no FDA or EMA approved products for the treatment of PEW in dialysis patients and we are not aware of any product candidates in clinical development for this indication. However, products are currently marketed or used off-label for the muscle wasting-related indication for which we are developing PINTA 745, and a number of companies are or may be developing new treatments for muscle wasting indications. The current treatment for PEW and cancer cachexia often involves the administration of readily available nutritional supplements and appetite stimulants including, in some jurisdictions, marijuana. In addition, there are two commercially available steroids, nandrolone and oxandrolone, that are sometimes prescribed off-label for the treatment of weight loss in cancer patients.

Additionally, a number of companies are developing drug candidates for muscle wasting applications, including: Eli Lilly & Co., which is conducting Phase 1 clinical studies and Phase 2 clinical trials for LY2495655, and Pfizer Inc., which is conducting Phase 1 clinical studies for PF-06252616, both of which are myostatin antibodies, to evaluate their ability to increase and improve muscle mass in various patient populations; Novartis Corporation, which is conducting Phase 1 clinical studies and Phase 2 clinical trials for BYM338, an ActR2B antibody, to evaluate its ability to build muscle in patients with various muscle-wasting conditions; Ligand Pharmaceuticals, which is developing LGD-4033, a selective androgen receptor modulator, for muscle wasting; Regeneron Pharmaceuticals, Inc., which is developing REGN1033, a myostatin antibody, in collaboration with Sanofi-Aventis; and GTx, Inc., which is developing ostarine, a selective androgen receptor modulator for cachexia.

Ovarian Cancer

There are numerous approved products and therapies for ovarian cancer, and a number of companies are or may be developing new treatments for ovarian cancer and other solid tumors. These therapies, as well as promotional efforts by competitors and clinical trial results of competitive products, could significantly diminish any ability to market and sell STM 434. Approved drug therapies for ovarian cancer include chemotherapy with platinum compounds such as cisplatin or carboplatin and taxane compounds such as paclitaxel or docetaxel, and hormone therapies including gosarelin, luprolide, tamoxifen, letrozole, anostrazole and exemestane.

We are aware of other companies engaged in clinical development of compounds for treatment of ovarian cancer. These include:

- PARP inhibitors such as AstraZeneca plc's olaparib and Tesaro's niraparib;
- Angiogenesis inhibitors, such as Genentech/Roche's bevacizumab (Avastin);
- VEGFr tyrosine kinase inhibitors such as Boehringer Ingelheim GmbH's nintedanib and AstraZeneca plc's recentin;
- Anti-folates such as Endocyte Inc.'s and Merck & Co. Inc.'s vintafolide and Eisai's farletuzumab; and
- Other therapies in development, including those from GlaxoSmithKline plc, Amgen and Clovis Oncology, Inc.

However, there are no targeted therapies approved by the FDA or EMA for the treatment of ovarian cancer that address the underlying biology.

License Agreements

License for PINTA 745

In September 2012, we entered into a license agreement with Amgen under which Amgen granted us an exclusive license under certain Amgen patent rights and regulatory filings, and a non-exclusive license under certain Amgen know-how, to develop and commercialize throughout the world, excluding Japan, products comprising Amgen's proprietary compound known as AMG 745, which we now refer to as PINTA 745. We have the right, subject to certain limitations, to grant sublicenses under such licensed intellectual property, in connection with licensing the licensed product. Our exclusive rights are subject to a prior license granted by Amgen to Takeda to the licensed patent rights exclusively in Japan.

Under this agreement, we are responsible for developing and commercializing the licensed product, at our cost, are required to use commercially reasonable efforts with respect to such development and commercialization activities, and must meet specific diligence obligations. We have paid Amgen an upfront license fee of $250,000, issued 205,128 shares of Series A-1 convertible preferred stock, and made $553,000 in payments to date to Amgen for purchases of clinical supplies. Each of the 205,128 shares of Series A-1 convertible preferred stock will convert into one share of common stock upon the closing of this offering. We are obligated to make payments to Amgen upon receipt of certain clinical supplies from Amgen, upon the achievement of certain development and commercialization milestones of up to $129.0 million, as well as escalating mid to high single-digit royalties based on sales of the licensed products by us, our affiliates or our sublicensees. We also will be obligated to pay Amgen a percentage of certain sublicensing royalties paid to us by any sublicensee under the agreement, if we sublicense the licensed product rights to a third party prior to October 2014. We hold the first right to file, prosecute, maintain and enforce all licensed rights throughout the world, except in Japan, where Amgen has the sole right to do so, and Amgen retains certain step-in rights.

This agreement, unless terminated earlier, will continue on a country-by-country basis until the expiration of the last to expire of all royalty obligations we owe to Amgen, which will occur on the later of (a) the date on which exploitation of a licensed product is no longer covered by a valid claim of a patent under the agreement which covers a product in an applicable country, (b) the loss of regulatory exclusivity in such country, or (c) 10 years after the first commercial sale of the applicable licensed product in such country. Upon expiration of the agreement, we retain non-exclusive rights to the licensed Amgen intellectual property. Amgen may terminate the agreement if we materially breach the agreement and do not cure such breach in a specified notice period, for a failure of our specified diligence obligations, if we experience certain insolvency events, or if we or our sublicensee challenge the patentability, validity or enforceability of any of the Amgen patents licensed under the agreement. We may terminate the agreement for Amgen's uncured material breach, or if our board of directors concludes that, due to safety, efficacy, marketability, patent coverage or competition concerns, the development or commercialization of a licensed product is no longer commercially practicable for us.

Other License Agreements

In September 2012, we entered into two other license agreements with Amgen under which Amgen granted us worldwide exclusive licenses under certain Amgen patent rights and regulatory filings, and non-exclusive licenses under certain Amgen know-how, to develop and commercialize products comprising certain of Amgen's proprietary compounds known as AMG 777, AMG 434, AMG 217, ActR2B5, AMG 842 and M43. We now refer to AMG 777 as ATA 777, AMG 434 as STM 434, AMG 217 as STM 217 and AMG 842 as ATA 842. We have the right, subject to certain limitations, to grant sublicenses under such licensed intellectual property, in connection with licensing the covered products.

Under both of these license agreements, we are responsible for the worldwide development and commercialization of the licensed products, at our cost, are required to use commercially reasonable efforts with respect to such development and commercialization activities, and must meet certain specific diligence obligations. In exchange for these licenses, we issued 410,256 shares of Series A-1 convertible preferred stock. Each of the 410,256 shares of Series A-1 convertible preferred stock will convert into one share of common stock immediately prior to completion of the offering. We are obligated to make payments to Amgen upon the achievement of certain development and commercialization milestones totaling up to $81.5 million for each license agreement, as well as escalating low to mid single-digit royalties based on sales of the licensed products by us, our affiliates or our sublicensees. We hold the first right to file, prosecute, maintain and enforce all licensed rights under these licenses throughout the world, and Amgen retains certain step-in rights.

Both license agreements with Amgen, unless terminated earlier, will continue on a country-by-country basis until the expiration of the last to expire of all royalty obligations we owe to Amgen, which will occur on the later of (a) the date on which exploitation of a licensed product is no longer covered by a valid claim of a patent under the agreement which covers the product in an applicable country, (b) the loss of regulatory exclusivity in such country, or (c) 10 years after the first commercial sale of the applicable licensed product in such country. Upon expiration of each agreement, we retain non-exclusive rights to the relevant licensed Amgen intellectual property. Amgen may terminate either agreement if we materially breach the agreement and do not cure such breach in a specified notice period, for a failure of our specified diligence obligations, if we experience certain insolvency events, or if we or our sublicensee challenge the patentability, validity or enforceability of any of the Amgen patents licensed under the applicable agreement. We may terminate each agreement for Amgen's uncured material breach, or if our board of directors concludes that, due to safety, efficacy, marketability, patent coverage or competition concerns, the development or commercialization of the relevant licensed product is no longer commercially practicable for us.

Intellectual Property

Patents

Our commercial success depends in part on our ability to obtain and maintain proprietary protection for our product candidates, to operate without infringing on the proprietary rights of others and to prevent others from infringing our proprietary rights. Our policy is to seek to protect our proprietary position by, among other methods, filing US and non-US patent applications related to our proprietary technology, inventions and improvements that are important to the development and implementation of our business. We also rely on trade secrets, know-how, continuing technological innovation and potential in-licensing opportunities to develop and maintain our proprietary position. Additionally, we expect to benefit from a variety of statutory frameworks in the United States, Europe and other countries that relate to the regulation of biosimilar molecules and orphan drug status. These statutory frameworks provide certain periods of regulatory exclusivity for qualifying molecules. See “Government Regulation.”

We seek composition-of-matter and method-of-treatment patents for each of our product candidates in key therapeutic areas. Our in-licensed and proprietary patent estate, on a worldwide basis, includes approximately 85 issued patents and 105 pending patent applications, with certain of these pending and issued claims relating to PINTA 745 and STM 434. These figures include in-licensed patents and patent applications to which we generally hold exclusive commercial rights.

Individual patents extend for varying periods of time depending on the date of filing of the patent application, the priority date claimed and the legal term of patents as determined by the applicable law in the countries in which those patents are obtained. Generally, patents issued from applications filed in the United States are effective for 20 years from the earliest non-provisional filing date. In addition, in certain instances, a patent term can be extended to recapture a portion of the term effectively lost as a result of the FDA regulatory review period, however, the restoration period cannot be longer than five years and the total patent term including the restoration period must not exceed 14 years following FDA approval. The duration of non-US patents varies in accordance with provisions of applicable local law, but typically, a patent’s life is 20 years from the earliest international filing date. Our licensed issued US patents are expected to expire on dates ranging from 2027 to 2029, and our licensed issued non-US patents are expected to expire on dates ranging from 2023 to 2029, exclusive of possible patent term extensions or adjustments. Our pending owned and licensed applications with respect to our product candidates, if issued, are expected to expire, as to applications filed in the United States, on dates ranging from 2026 to 2035, and, as to applications filed in jurisdictions outside the United States, on dates ranging from 2023 to 2035, exclusive of possible patent term extensions or adjustments. However, the actual protection afforded by a patent varies on a product-by-product basis, from country to country and depends upon many factors, including the type of patent, the scope of its coverage, the availability of extensions of patent term, the availability of legal remedies in a particular country and the validity and enforceability of the patent.

National and international patent laws concerning protein-based biologics such as our products remain highly unsettled. No consistent policy regarding the patent-eligibility or the breadth of claims allowed in such patents has emerged to date in the United States, Europe or other countries. Changes in either the patent laws or in interpretations of patent laws in the United States and other countries can diminish our ability to protect our inventions and enforce our intellectual property rights. Accordingly, we cannot predict the breadth or enforceability of claims that may be granted in our patents or in third-party patents. The biotechnology and pharmaceutical industries are characterized by extensive intellectual property litigation. Our ability to maintain and solidify our proprietary position for our product candidates and technology will depend on our success in obtaining effective claims for any patent and enforcing those claims once a patent is granted. We do not know whether any of the patent applications that we may file or license from third parties will result in the issuance of any patents. The issued patents that we

own or may receive in the future may be challenged, invalidated or circumvented, and the rights granted under any issued patents may not provide us with sufficient protection or competitive advantages against competitors with similar technology. Furthermore, our competitors may independently develop and commercialize similar drugs or duplicate our technology, business model or strategy without infringing our patents. Because of the extensive time required for clinical development and regulatory review of any drug we may develop from our product candidates, it is possible that, before any of our drugs can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thereby reducing any advantage of any such patent. The patent positions for our two lead product candidates are summarized below:

PINTA 745 Patent Portfolio

We hold exclusive rights to four issued US patents directed to PINTA 745 relating to composition-of-matter and related methods of use claims, one issued European patent (registered in most countries of the European Patent Convention) and additional issued patents or pending patent applications in many other jurisdictions worldwide, including Argentina, Australia, Brazil, Canada, China, Egypt, Israel, Japan, the Republic of Korea, Malta, Mexico, Norway, New Zealand, Poland, Serbia, Singapore, Thailand, Taiwan, South Africa, Kosovo, Hong Kong, the Philippines, and Eurasia (validated in Russia). The expected expiration dates for these patents range from 2023 to 2034, exclusive of possible patent term extensions or adjustments.

STM 434 Patent Portfolio

We hold exclusive rights to two issued US patents directed to STM 434 relating to composition-of-matter and related methods of use claims, and issued patents or pending patent applications related to STM 434 in many non-US patent offices worldwide, including in Argentina, Australia, Brazil, Botswana, Canada, Chile, China, Columbia, Costa Rica, Algeria, the Eurasian Patent Office, Egypt, the European Patent Office, the Gulf Cooperation Council, Hong Kong, Indonesia, Israel, India, Jordan, Japan, the Republic of Korea, Libya, Malta, Morocco, Mexico, Malaysia, New Zealand, Peru, the Philippines, Singapore, Tunisia, Taiwan, Ukraine, Vietnam, and South Africa. The expected expiration dates for these patents range from October 2026 to November 2029, exclusive of possible patent term extensions or adjustments.

Trade Secrets

In addition to patents, we rely upon unpatented trade secrets and know-how and continuing technological innovation to develop and maintain our competitive position. We seek to protect our proprietary information, in part, using confidentiality agreements with our commercial partners, collaborators, employees and consultants and invention assignment agreements with our employees. These agreements are designed to protect our proprietary information and, in the case of the invention assignment agreements, to grant us ownership of technologies that are developed through a relationship with a third party. These agreements may be breached, and we may not have adequate remedies for any such breach or any unauthorized disclosure of our proprietary information. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our commercial partners, collaborators, employees and consultants use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

Government Regulation

Overview of US Government Regulation

The preclinical studies and clinical testing, manufacture, labeling, storage, record keeping, advertising, promotion, export, marketing and sales, among other things, of our product candidates are

subject to extensive regulation by governmental authorities in the United States and other countries. In the United States, pharmaceutical products are regulated by the FDA under the Federal Food, Drug, and Cosmetic Act and other laws, including, in the case of biologics, the Public Health Service Act. We expect PINTA 745 and STM 434 to be regulated by the FDA as biologics and to be reviewed by the Center for Drug Evaluation and Research, or CDER, as proteins intended for therapeutic use. Protein therapeutics require the submission of a BLA and approval by the FDA prior to being marketed in the US. Manufacturers of protein therapeutics may also be subject to state regulation. Failure to comply with FDA requirements, both before and after product approval, may subject us or our partners, contract manufacturers, and suppliers to administrative or judicial sanctions, including FDA refusal to approve applications, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, fines and/or criminal prosecution.

The steps required before a biologic may be approved for marketing of an indication in the United States generally include:

- completion of preclinical laboratory tests, animal studies and formulation studies conducted according to GLPs and other applicable regulations;
- submission to the FDA of an IND which must become effective before human clinical trials may commence;
- completion of adequate and well-controlled human clinical trials in accordance with GCPs to establish that the biological product is “safe, pure and potent”, which is analogous to the safety and efficacy approval standard for a chemical drug product for its intended use;
- submission to the FDA of a BLA;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with applicable cGMPs; and
- FDA review of the BLA and issuance of a biologics license, which is the approval necessary to market a protein therapeutic.

Before conducting studies in humans, laboratory evaluation of product chemistry, toxicity and formulation as well as animal studies to assess the potential safety and efficacy of the biologic candidate must be conducted. Preclinical toxocology studies in animals must be conducted in compliance with FDA regulations. The results of the preclinical tests, together with manufacturing information and analytical data, are submitted to the FDA as part of an IND. Some preclinical testing may continue even after the IND is submitted. In addition to including the results of the preclinical testing, the IND will also include a protocol detailing, among other things, the objectives of the clinical trial, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated if the first phase or phases of the clinical trial lend themselves to an efficacy determination. The IND will automatically become effective 30 days after receipt by the FDA, unless the FDA within the 30-day time period places the IND on clinical hold because of safety concerns about the product candidate or the conduct of the trial described in the clinical protocol included in the IND. The IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can proceed.

All clinical trials for new drugs and biologics must be conducted under the supervision of one or more qualified principal investigators in accordance with GCPs. They must be conducted under protocols detailing the objectives of the applicable phase of the trial, dosing procedures, research subject selection and exclusion criteria and the safety and effectiveness criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND, and progress reports detailing the status of the clinical trials must be submitted to the FDA annually. Sponsors must also report to the FDA within certain timeframes, serious and unexpected adverse reactions, any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator’s brochure,

or any findings from other studies or animal or in vitro testing that suggest a significant risk in humans exposed to the product candidate. An IRB at each institution participating in the clinical trial must review and approve the protocol before a clinical trial commences at that institution, approve the information regarding the trial and the consent form that must be provided to each research subject or the subject's legal representative, and monitor the trial until completed.

Clinical trials are typically conducted in three sequential phases, but the phases may overlap and different trials may be initiated with the same product candidate within the same phase of development in similar or differing patient populations. Phase 1 clinical studies may be conducted in a limited number of patients or healthy volunteers, as appropriate. The product candidate is initially tested for safety and, as appropriate, for absorption, metabolism, distribution, excretion, pharmacodynamics and pharmacokinetics.

Phase 2 usually involves trials in a larger, but still limited, patient population to evaluate preliminarily the efficacy of the product candidate for specific, targeted indications to determine dosage tolerance and optimal dosage and to identify possible short-term adverse effects and safety risks.

Phase 3 trials are undertaken to further evaluate clinical efficacy of a specific endpoint and to test further for safety within an expanded patient population at geographically dispersed clinical trial sites. Phase 1, Phase 2, or Phase 3 testing might not be completed successfully within any specific time period, if at all, with respect to any of our product candidates. Results from one trial are not necessarily predictive of results from later trials. Furthermore, the FDA or the sponsor may suspend clinical trials at any time on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product candidate has been associated with unexpected serious harm to patients.

The results of the preclinical studies and clinical trials, together with other detailed information, including information on the manufacture and composition of the product, are submitted to the FDA as part of a BLA requesting approval to market the product candidate for a proposed indication. Under the Prescription Drug User Fee Act the fees payable to the FDA for reviewing a BLA, as well as annual fees for commercial manufacturing establishments and for approved products, can be substantial but are subject to certain limited deferrals, waivers and reductions that may be available. The fees typically increase each year. Each BLA submitted to the FDA for approval is reviewed for administrative completeness and reviewability within 60 days following receipt by the FDA of the application. If the BLA is found complete, the FDA will file the BLA, triggering a full review of the application. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission. The FDA's established goal is to review 90% of priority BLA applications within six months after the application is accepted for filing and 90% of standard BLA applications within 10 months of the acceptance date, whereupon a review decision is to be made. The FDA, however, may not approve a product candidate within these established goals and its review goals are subject to change from time to time. Further, the outcome of the review, even if generally favorable, may not be an actual approval but a "complete response letter" that describes additional work that must be done before the application can be approved. Before approving a BLA, the FDA may inspect the facility or facilities at which the product is manufactured and will not approve the product unless the facility complies with cGMPs. The FDA may deny approval of a BLA if applicable statutory or regulatory criteria are not satisfied, or may require additional testing or information, which can extend the review process. FDA approval of any application may include many delays or never be granted. If a product is approved, the approval may impose limitations on the uses for which the product may be marketed, may require that warning statements be included in the product labeling, may require that additional studies be conducted following approval as a condition of the approval, and may impose restrictions and conditions on product distribution, prescribing, or dispensing in the form of a Risk Evaluation and Mitigation Strategy, or REMS, or otherwise limit the scope of any approval. The FDA must approve a BLA supplement or a new BLA before a product may be marketed for other uses or before certain

manufacturing or other changes may be made. Further post-marketing testing and surveillance to monitor the safety or efficacy of a product is required. Also, product approvals may be withdrawn if compliance with regulatory standards is not maintained or if safety or manufacturing problems occur following initial marketing. In addition, new government requirements may be established that could delay or prevent regulatory approval of our product candidates under development.

As part of the recently-enacted Patient Protection and Affordable Care Act of 2010, under the subtitle of Biologics Price Competition and Innovation Act of 2009, or the BPCIA, a statutory pathway has been created for licensure, or approval, of biological products that are biosimilar to, and possibly interchangeable with, earlier biological products licensed under the Public Health Service Act. Also under the BPCIA, innovator manufacturers of original reference biological products are granted 12 years of exclusivity before biosimilars can be approved for marketing in the United States. The implementation of an abbreviated approval pathway for biological products is under the direction of the FDA and is currently being developed. The FDA has issued several draft guidances for industry related to the BPCIA, addressing scientific, quality and procedural issues relevant to an abbreviated application for a biosimilar product. The approval of a biologic product biosimilar to one of our products could have a material adverse impact on our business as it may be significantly less costly to bring to market and may be priced significantly lower than our products.

Both before and after the FDA approves a product, the manufacturer and the holder or holders of the BLA for the product are subject to comprehensive regulatory oversight. For example, quality control and manufacturing procedures must conform, on an ongoing basis, to cGMP requirements, and the FDA periodically inspects manufacturing facilities to assess compliance with cGMPs. Accordingly, manufacturers must continue to spend time, money and effort to maintain cGMP compliance.

Orphan Drug Act

The Orphan Drug Act provides incentives to manufacturers to develop and market drugs for rare diseases and conditions affecting fewer than 200,000 persons in the United States at the time of application for orphan drug designation. Orphan drug designation must be requested before submitting a BLA. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process. If a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the holder of the approval is entitled to a seven-year exclusive marketing period in the United States for that product except in very limited circumstances. For example, a drug that the FDA considers to be clinically superior to, or different from, another approved orphan drug, even though for the same indication, may also obtain approval in the United States during the seven-year exclusive marketing period. In addition, holders of exclusivity for orphan drugs are expected to assure the availability of sufficient quantities of their orphan drugs to meet the needs of patients. Failure to do so could result in the withdrawal of marketing exclusivity for the drug.

Activin A has been strongly implicated in two subcategories of ovarian tumors: clear cell tumors and granulosa cell tumors. In these subcategories, we believe that we may be able to obtain orphan drug designation for STM 434 in the United States and, if supported by our clinical data, breakthrough designation, and pursue clinical trials of STM 434 as a monotherapy.

Legislation similar to the Orphan Drug Act has been enacted outside the United States, including in the EU. The orphan legislation in the EU is available for therapies addressing chronic debilitating or life-threatening conditions that affect five or fewer out of 10,000 persons or are financially not viable to develop. The market exclusivity period is for ten years, although that period can be reduced to six years if, at the end of the fifth year, available evidence establishes that the product is sufficiently profitable not to justify maintenance of market exclusivity. The market exclusivity may be extended to 12 years if sponsors complete a pediatric investigation plan agreed upon with the relevant committee of the EMA.

Expedited Review and Approval

The FDA has various programs, including Fast Track, priority review and accelerated approval, which are intended to expedite or simplify the process for developing and reviewing promising drugs, or to provide for the approval of a drug on the basis of a surrogate endpoint. Even if a drug qualifies for one or more of these programs, the FDA may later decide that the drug no longer meets the conditions for qualification or that the time period for FDA review or approval will be shortened. Generally, drugs that are eligible for these programs are those for serious or life-threatening conditions, those with the potential to address unmet medical needs and those that offer meaningful benefits over existing treatments. For example, Fast Track is a process designed to facilitate the development and expedite the review of drugs to treat serious or life-threatening diseases or conditions and fill unmet medical needs. Priority review is designed to give drugs that offer major advances in treatment or provide a treatment where no adequate therapy exists an initial review within six months as compared to a standard review time of 10 months. Although Fast Track and priority review do not affect the standards for approval, the FDA will attempt to facilitate early and frequent meetings with a sponsor of a Fast Track designated drug and expedite review of the application for a drug designated for priority review. Accelerated approval provides for an earlier approval for a new drug that is intended to treat a serious or life-threatening disease or condition and that fills an unmet medical need based on a surrogate endpoint. A surrogate endpoint is a laboratory measurement or physical sign used as an indirect or substitute measurement representing a clinically meaningful outcome. As a condition of approval, the FDA may require that a sponsor of a product candidate receiving accelerated approval perform post-marketing clinical trials to confirm the clinically meaningful outcome as predicted by the surrogate marker trial.

In June 2013, the FDA published a draft Guidance for Industry titled, “Expedited Programs for Serious Conditions—Drugs and Biologics” which provides guidance on FDA programs that are intended to facilitate and expedite development and review of new drugs as well as threshold criteria generally applicable to concluding that a drug is a candidate for these expedited development and review programs. In addition to the Fast Track, accelerated approval and priority review programs discussed above, the FDA also provided guidance on Breakthrough Therapy designation. A request for Breakthrough Therapy designation should be submitted concurrently with, or as an amendment to an IND. FDA has already granted this designation to over 30 new drugs and has recently approved the first Breakthrough Therapy designated drugs.

Reimbursement

In both domestic and foreign markets, sales and reimbursement of any approved products will depend, in part, on the extent to which the costs of such products will be covered by third-party payors, such as government health programs, commercial insurance and managed healthcare organizations. These third-party payors are increasingly challenging the prices charged for medical products and services and imposing controls to manage costs. The containment of healthcare costs has become a priority of federal and state governments and the prices of drugs have been a focus in this effort. Governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit our net revenue and results. In addition, there is significant uncertainty regarding the reimbursement status of newly approved healthcare products. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the cost-effectiveness of our products. If third-party payors do not consider our products to be cost-effective compared to other therapies, the payors may not cover our products after approved as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products on a profitable basis.

Within the United States, if we obtain appropriate approval in the future to market any of our current product candidates, we may seek approval and coverage for those products under Medicaid, Medicare and the Public Health Service, or PHS, pharmaceutical pricing program and also seek to sell the products to federal agencies.

Medicaid is a joint federal and state program that is administered by the states for low income and disabled beneficiaries. Under the Medicaid Drug Rebate Program, manufacturers are required to pay a rebate for each unit of product reimbursed by the state Medicaid programs. The amount of the rebate for each product is set by law and may be subject to an additional discount if certain pricing increases more than inflation.

Medicare is a federal program administered by the federal government that covers individuals age 65 and over as well as those with certain disabilities. Medicare Part D provides coverage to enrolled Medicare patients for self-administered drugs (i.e., drugs that do not need to be administered by a physician). Medicare Part D is administered by private prescription drug plans approved by the US government and each drug plan establishes its own Medicare Part D formulary for prescription drug coverage and pricing, which the drug plan may modify from time-to-time.

Medicare Part B covers most injectable drugs given in an in-patient setting, and some drugs administered by a licensed medical provider in hospital outpatient departments and doctors' offices. Medicare Part B is administered by Medicare Administrative Contractors, which generally have the responsibility of making coverage decisions. Subject to certain payment adjustments and limits, Medicare generally pays for Part B covered drugs based on a percentage of manufacturer-reported average sales price.

Drug products are subject to discounted pricing when purchased by federal agencies via the Federal Supply Schedule, or FSS. FFS participation is required for a drug product to be covered and paid for by certain federal agencies and for coverage under Medicaid, Medicare Part B and the PHS pharmaceutical pricing program. FSS pricing is negotiated periodically with the Department of Veterans Affairs. FSS pricing is intended to not exceed the price that a manufacturer charges its most-favored non-federal customer for its product. In addition, prices for drugs purchased by the Veterans Administration, Department of Defense (including drugs purchased by military personnel and dependents through the TRICARE retail pharmacy program), Coast Guard, and PHS are subject to a cap on pricing (known as the "federal ceiling price") and may be subject to an additional discount if pricing increases more than inflation.

To maintain coverage of drugs under the Medicaid Drug Rebate Program, manufacturers are required to extend discounts to certain purchasers under the PHS pharmaceutical pricing program. Purchasers eligible for discounts include hospitals that serve a disproportionate share of financially needy patients, community health clinics and other entities that receive health services grants from the PHS.

The American Recovery and Reinvestment Act of 2009 provides funding for the federal government to compare the effectiveness of different treatments for the same illness. A plan for the research will be developed by the Department of Health and Human Services, the Agency for Healthcare Research and Quality and the National Institutes for Health, and periodic reports on the status of the research and related expenditures will be made to Congress. Although the results of the comparative effectiveness studies are not intended to mandate coverage policies for public or private payors, it is not clear what effect, if any, the research will have on the sales of any product, if any such product or the condition that it is intended to treat is the subject of a study. It is also possible that comparative effectiveness research demonstrating benefits in a competitor's product could adversely affect the sales of any of our product candidates, if approved. If third-party payors do not consider our products to be cost-effective compared to other available therapies, they may not cover our products as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products on a profitable basis.

The United States and state governments continue to propose and pass legislation designed to reduce the cost of healthcare. In March 2010, the United States Congress enacted the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act which includes changes to the coverage and payment for drug products under government health care programs. Adoption of other new legislation at the federal or state level could further limit reimbursement for pharmaceuticals.

Outside the United States, ensuring adequate coverage and payment for our products will face challenges. Pricing of prescription pharmaceuticals is subject to governmental control in many countries. Pricing negotiations with governmental authorities can extend well beyond the receipt of regulatory approval for a product and may require us to conduct a clinical trial that compares the cost effectiveness of our product candidates or products to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in our commercialization efforts. Third-party payors are challenging the prices charged for medical products and services, and many third-party payors limit reimbursement for newly-approved health care products. Recent budgetary pressures in many European Union countries are also causing governments to consider or implement various cost-containment measures, such as price freezes, increased price cuts and rebates. If budget pressures continue, governments may implement additional cost-containment measures. Cost-control initiatives could decrease the price we might establish for products that we may develop or sell, which would result in lower product revenues or royalties payable to us. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products.

Foreign Regulation

In addition to regulations in the United States, we expect to be subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of our product candidates. Whether or not we obtain FDA approval for a product candidate, we must obtain approval from the comparable regulatory authorities of foreign countries or economic areas, such as the European Union, before we may commence clinical trials or market products in those countries or areas. The approval process and requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from place to place, and the time may be longer or shorter than that required for FDA approval.

Certain countries outside of the United States have a process that requires the submission of a clinical trial application much like an IND prior to the commencement of human clinical trials. In Europe, for example, a clinical trial application, or CTA, must be submitted to the competent national health authority and to independent ethics committees in each country in which a company intends to conduct clinical trials. Once the CTA is approved in accordance with a country's requirements, clinical trial development may proceed in that country. In all cases, the clinical trials must be conducted in accordance with good clinical practices, or GCPs and other applicable regulatory requirements.

Under European Union regulatory systems, a company may submit marketing authorization applications either under a centralized or decentralized procedure. The centralized procedure is compulsory for medicinal products produced by biotechnology or those medicinal products containing new active substances for specific indications such as the treatment of AIDS, cancer, neurodegenerative disorders, diabetes, viral diseases and designated orphan medicines, and optional for other medicines which are highly innovative. Under the centralized procedure, a marketing application is submitted to the European Medicines Agency where it will be evaluated by the Committee for Medicinal Products for Human Use and a favorable opinion typically results in the grant by the European Commission of a single marketing authorization that is valid for all European Union member states within 67 days of receipt of the opinion. The initial marketing authorization is valid for five years, but once renewed is usually valid for an unlimited period.

As in the United States, we may apply for designation of a product as an orphan drug for the treatment of a specific indication in the European Union before the application for marketing authorization is made. Orphan drugs in Europe enjoy economic and marketing benefits, including up to 11 years of exclusivity for the approved indication unless another applicant can show that its product is safer, more effective or otherwise clinically superior to the orphan designated product.

Additional Regulation

We are also subject to regulation under the Occupational Safety and Health Act, the Environmental Protection Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act and other present and potential federal, state or local regulations. These and other laws govern our use, handling and disposal of various biological and chemical substances used in, and waste generated by our operations. Our research and development involves the controlled use of hazardous materials, chemicals and viruses. Although we believe that our safety procedures for handling and disposing of such materials comply with the standards prescribed by state and federal regulations, the risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of such an accident, we could be held liable for any damages that result and any such liability could exceed our resources.

There have been a number of federal and state proposals during the last few years regarding the pricing of pharmaceutical and biological products, government control and other changes to the healthcare system of the United States. It is uncertain what legislative proposals will be adopted or what actions federal, state or private payers for medical goods and services may take in response to any healthcare reform proposals or legislation. We cannot predict the effect medical or healthcare reforms may have on our business, and no assurance can be given that any such reforms will not have a material adverse effect.

Manufacturing

Our strategy is to outsource the manufacturing of drug substance and drug product for our preclinical studies and clinical trials. We also outsource fill-finish, packaging, labeling, storage, shipping and distribution. This allows us to rapidly conduct manufacturing activities for multiple programs in parallel. It also allows us to balance the requirements of multiple programs and avoid costly investment in manufacturing infrastructure and personnel before clinical data are available. Our internal capabilities and experience in the manufacturing of protein therapeutics encompass a broad range of activities including cell line development, process development, analytical development, formulation development, clinical and commercial scale GMP manufacturing, quality control and quality assurance. This breadth of experience allows us to effectively oversee and direct the activities of our contract manufacturers and testing facilities. In selecting CMOs to manufacture our product candidates, we generally strive to select the CMO based on the particular technical needs of the product candidate. In addition, we aim to work with CMOs that possess the requisite scale, expertise and experience to support clinical as well as commercial product manufacturing. Although this approach, when coupled with the range of CMO capabilities, requires us to utilize multiple CMOs in the manufacturing of our product candidates, we believe it may also mitigate the need for costly and time consuming process transfers later in development. Ultimately, we believe that our outsourced model and approach to CMO management will allow us to efficiently scale our manufacturing processes to support our current clinical development programs and the potential commercialization of our product candidates.

Our lead product candidates, PINTA 745 and STM 434, are manufactured using readily available raw materials and established manufacturing procedures. PINTA 745 is a peptibody that is expressed by a recombinant strain of E. Coli. STM 434 is produced in bioreactors using Chinese hamster ovary cells

that have been genetically engineered to produce this specific product candidate. All of our other product candidates will also be produced in bioreactors using mammalian cells; however, we have yet to establish master cell banks and manufacturing procedures to support the production of these proteins.

Concurrent with the license of our existing product candidates from Amgen, we acquired certain manufacturing process know-how related to producing clinical research-related drug supply. In the case of PINTA 745 and STM 434, this included GMP materials to support the manufacturing of clinical trial material. In the case of our earlier stage product candidates, this know-how was more limited in scope, as these product candidates are pre- master cell bank in stage of development.

Subsequent investments by the company and our CMOs will be necessary in order to manufacture product for pivotal studies, as well as commercialization. Over time, we will depend on manufacturing campaigns that will require the transfer of manufacturing processes to our CMOs. These may include modifications to the processes to suit the CMO's facility and capability constraints, as well as product comparability testing. We have already transferred the downstream elements of the STM 434 manufacturing process, and we have initiated transfer of the upstream components of the STM 434 manufacturing process. We recently encountered a small number of cracked vials in frozen STM 434 drug product. We believe the problem was adequately addressed by changing the temperature at which the product was frozen. We are also developing a refrigerated liquid formulation of the drug product. We have also initiated process transfer activities for PINTA 745. As we progress further in clinical development to pivotal trials, we will also need to develop commercial scale manufacturing processes for each product candidate consistent with the proposed dose and schedule to be used in clinical practice and at a cost sufficient to support profitable commercialization.

Legal Proceedings

We are not currently subject to any material legal proceedings.

Facilities

Our corporate headquarters are currently located in Brisbane, California, and consist of approximately 900 square feet of leased office space under a sublease that expires in January 2015. Our research and development facility is located in Westlake Village, California, and consists of approximately 1,450 square feet of leased office space under a lease that expires in October 2014.

Employees

As of June 30, 2014, we had 14 full-time employees. All of our personnel are co-employees of Atara and TriNet, a professional human resource service organization. Under our agreement with TriNet, TriNet is a co-employer of our personnel, and is responsible for administering all payroll functions, including tax withholding, and providing health insurance and other benefits for these individuals. We reimburse TriNet for these costs and pay TriNet a fee for its services. We are responsible for, and control, all aspects of the hiring, retention, compensation, management and supervision of our personnel. We consider the terms of our contract with TriNet to be reasonable and customary and believe this arrangement provides substantial benefit to us, in the form of lower costs for employee benefits and reduced administrative burden on us.

MANAGEMENT

Executive Officers, Other Executive Management and Directors

Our executive officers, other executive management and directors, their respective positions and their respective ages as of March 31, 2014 are as follows:

Name	Age	Position(s)
Executive Officers		
Isaac E. Ciechanover, M.D.	43	President, Chief Executive Officer and Director
Mitchall G. Clark	53	Chief Regulatory and Quality Assurance Officer
Christopher Haqq, M.D., Ph.D.	48	Chief Medical Officer
John F. McGrath, Jr.	49	Chief Financial Officer
Gad Soffer	37	Chief Operating Officer
Non-Employee Directors		
Matthew K. Fust(1)(3)	49	Director
Carol Gallagher, Pharm.D.(1)(2)(3)	49	Director
Joel S. Marcus(1)(2)	66	Director
Beth Seidenberg, M.D.(3)	57	Director
Eckard Weber, M.D.(2)	64	Director

(1) Member of the audit committee.
(2) Member of the compensation committee.
(3) Member of the nominating and corporate governance committee.

Executive Officers

Isaac E. Ciechanover, M.D. has served as our President and Chief Executive Officer and a member of our board of directors since our founding in August 2012. From April 2010 to November 2012, Dr. Ciechanover was a partner at Kleiner Perkins Caufield & Byers, a venture capital firm, where he primarily focused on life sciences investing. From 2004 to March 2010, he served in various capacities at Celgene Corporation, or Celgene, a biopharmaceutical company, most recently as Executive Director for Business Development. Dr. Ciechanover has also held business development and venture capital roles at pharmaceutical companies Amylin Pharmaceuticals and Pfizer and venture capital firm Pequot Ventures. Dr. Ciechanover received a B.A. from Stanford University, an M.Phil. in Epidemiology from Cambridge University, an M.D. from Weill Cornell Medical College and an M.B.A. from Harvard Business School. We believe that Dr. Ciechanover's extensive experience in the life sciences industry and in business development, his role as our President and Chief Executive Officer, and his training as a physician, provide him with the qualifications and skills to serve on our board of directors.

Mitchall G. Clark has served as Chief Regulatory and Quality Assurance Officer since March 2014. From June 2013 to March 2014, he served as the Principal of Lindum Pharmaceutical Services, a regulatory consultancy. From December 2011 to June 2013, he served as Senior Vice President, Regulatory Affairs and Quality of NantPharma, LLC, a pharmaceutical company. Mr. Clark served as an independent regulatory consultant between June 2011 and December 2011. From October 2010 to June 2011, Mr. Clark served as Senior Vice President of Regulatory Affairs of Celgene. From November 2007 to October 2010, he served as Senior Vice President of Global Regulatory Affairs of Abraxis, a biopharmaceutical company, which was acquired by Celgene in October 2010. From April 2006 to November 2007, Mr. Clark served as Vice President of Regulatory Affairs of Abraxis and its predecessor entity. From May 2002 to April 2006, Mr. Clark served as Vice President of Regulatory Affairs of American BioScience, Inc., a pharmaceutical company, which was merged with Abraxis in April 2006. Prior to that, Mr. Clark served in various senior regulatory positions at American Pharmaceutical Partners, VivoRx, Inc. and Faulding, Inc. Mr. Clark holds a B. Pharm. from The University of Nottingham, England.

Christopher Haqq, M.D. has served as our Chief Medical Officer since September 2012. From September 2011 to August 2012, Dr. Haqq served as the Chief Executive Officer of Genomic Systems, a biotechnology company. From 2007 to September 2011, Dr. Haqq served as Vice President for Clinical Research and Development at Cougar Biotechnology, Inc., a cancer-focused biotechnology company that was acquired by Johnson & Johnson in 2009, and Johnson & Johnson's Janssen Pharmaceutical Companies division. Prior to that time, Dr. Haqq served in drug development roles at Amgen Inc., a biotechnology company, and practiced as a medical oncologist and led a translational science laboratory as an Assistant Adjunct Professor in the Division of Hematology/Oncology at the University of California, San Francisco. Dr. Haqq received a B.S. degree from Stanford University and an M.D. and Ph.D. from Harvard Medical School.

John F. McGrath, Jr. has served as our Chief Financial Officer since January 2013. From December 2009 to January 2013, Mr. McGrath was an Executive in Residence and Operating Partner at Kleiner Perkins Caufield & Byers. From November 2001 to November 2009, Mr. McGrath served as Vice President and Chief Financial Officer for Network Equipment Technologies, Inc., a networking equipment company. Mr. McGrath's prior experience includes Vice President of Finance for Aspect Communications, Director of Finance for TCSI Corporation and Manager in the High Technology and Manufacturing practice at Ernst & Young. He was a member of the board of directors of Endwave Corporation, Actel Corporation and the Presidio Fund. Mr. McGrath is a registered C.P.A. (inactive) in the State of California and received a B.S. from the University of Wyoming and an M.B.A. from the Stanford Graduate School of Business.

Gad Soffer has served as our Chief Operating Officer since March 2013. From August 2008 to March 2013, he held various roles in Business Development and served as Global Project Leader Abraxane at Celgene. From June 2000 to June 2001 and from April 2004 to April 2006, Mr. Soffer was a healthcare consultant with Easton Associates. He received an A.B. from Harvard University, an M.S. from Columbia University and an M.B.A. from Harvard Business School.

Board of Directors

Matthew K. Fust has served as a member of our board of directors since March 2014. Mr. Fust has served on the board of directors of Ultragenyx Pharmaceutical, Inc. since January 2014, MacroGenics, Inc. since March 2014 and Sunesis Pharmaceuticals, Inc. since 2005. Mr. Fust was Executive Vice President and Chief Financial Officer of Onyx Pharmaceuticals, Inc., a biopharmaceutical company, from January 2009 through its acquisition by Amgen in October 2013. Mr. Fust continued as an employee of Amgen until January 2014. From May 2003 to December 2008, Mr. Fust served as Chief Financial Officer at Jazz Pharmaceuticals, Inc., a specialty pharmaceutical company. From 2002 to 2003, Mr. Fust served as Chief Financial Officer at Perlegen Sciences, a biopharmaceutical company. Previously, he was Senior Vice President and Chief Financial Officer at ALZA Corporation, a pharmaceutical company, where he was an executive from 1996 until 2002. From 1991 until 1996, Mr. Fust was a manager in the healthcare strategy practice at Andersen Consulting. Mr. Fust received a B.A. from the University of Minnesota and an M.B.A. from the Stanford Graduate School of Business. We believe that Mr. Fust is qualified to serve on our board of directors due to his extensive experience as a chief financial officer in the life sciences industry, his leadership and management experience, and his service as a director of other biopharmaceutical companies.

Carol Gallagher, Pharm.D. has served as a member of our board of directors since January 2013. Since October 2013, Dr. Gallagher has served as a venture partner with Frazier Healthcare, a venture capital firm. Dr. Gallagher served as the President and Chief Executive Officer of Calistoga Pharmaceuticals, a biopharmaceutical company, from 2008 to 2011, when the company was acquired by Gilead Sciences. From 2007 to 2008, Dr. Gallagher was the President and Chief Executive Officer of Metastatix, Inc., a biopharmaceutical company. Prior to that time starting in 1989, she served in

various roles at pharmaceutical companies Eli Lilly, Amgen, Agouron Pharmaceuticals, Pfizer, Biogen Idec Pharmaceuticals, CancerVax and Anadys Pharmaceuticals. Dr. Gallagher attended Vanderbilt University and received B.S. and Doctor of Pharmacy degrees from the University of Kentucky. We believe that Dr. Gallagher is qualified to serve on our board of directors due to her extensive experience in the pharmaceuticals industry, her leadership and management experience, and her service as a director of other biopharmaceutical companies. We believe that Dr. Gallagher's extensive experience in the life sciences industry and as a chief executive officer provide her with the qualifications and skills to serve as a director of our company.

Joel S. Marcus has served on our board of directors since November 2013. Mr. Marcus founded Alexandria Real Estate Equities, Inc., a publicly-traded real estate investment trust, or REIT, focused on owning, operating, and developing high-quality, sustainable real estate for the broad and diverse life science industry, and has served as its Chairman since May 2007, Chief Executive Officer since March 1997, and a director since its founding in 1994. Mr. Marcus also co-founded and leads Alexandria Venture Investments, the Company's strategic venture arm. Prior to founding Alexandria, Mr. Marcus specialized in corporate finance and capital markets, venture capital, and mergers and acquisitions with special expertise in the biopharmaceutical industry. Mr. Marcus was formerly a practicing C.P.A. and tax manager with Arthur Young & Co. focusing on the financing and taxation of REITs. Mr. Marcus has served as a member of the board of directors of Accelerator Corporation, of which he was one of the original architects and co-founders, CURE (Citizens United for Research in Epilepsy), Foundation for the National Institutes of Health (FNIH), Friends of Cancer Research, The Hamner Institutes for Health Sciences, Intra-Cellular Therapies, Inc., Multiple Myeloma Research Foundation, the Partnership for New York City and Rexford Industrial Realty, Inc. Mr. Marcus received B.A. and J.D. degrees from the University of California, Los Angeles. We believe that Mr. Marcus' extensive experience in the life science real estate industry and as a chief executive officer, as well as his training as a C.P.A. and attorney, provide him with the qualifications and skills to serve as a director of our company.

Beth Seidenberg, M.D. has served as a member of our board of directors since our founding in August 2012. Dr. Seidenberg is a General Partner at Kleiner Perkins Caufield & Byers, a venture capital firm, where she has primarily focused on life sciences investing since May 2005. Dr. Seidenberg was previously the Senior Vice President, Head of Global Development and Chief Medical Officer at Amgen, Inc., a biotechnology company. In addition, Dr. Seidenberg was a senior executive in research and development at Bristol Myers Squibb Company, a biopharmaceutical company, and Merck. Dr. Seidenberg received a B.S. from Barnard College and an M.D. from the University of Miami School of Medicine and completed her post-graduate training at The Johns Hopkins University, George Washington University and the National Institutes of Health. Dr. Seidenberg serves on the board of directors of TESARO and Epizyme, Inc. We believe that Dr. Seidenberg's extensive experience in the life sciences industry as a senior executive and venture capitalist, as well as her training as a physician, provide her with the qualifications and skills to serve as a director of our company.

Eckard Weber, M.D. has served as a member of our board of directors since 2013. Dr. Weber has served as a partner with Domain Associates, LLC, a private venture capital management firm focused on life sciences, since 2001. Dr. Weber has over 20 years of drug discovery and development experience. Dr. Weber also served as interim Chief Executive Officer and Chairman of the Board of Sonexa Therapeutics, a seed-stage biopharmaceutical company from 2007 until June 2014. Dr. Weber also serves as chairman of the board at Ocera Therapeutics, Orexigen Therapeutics and Tragara Pharmaceuticals, and is a member of the board of directors of Adynxx, Domain Elite Holdings and Tobira Therapeutics. He has been the founding Chief Executive Officer of multiple Domain Associates portfolio companies including Acea Pharmaceuticals, Ascenta Therapeutics, Calixa Therapeutics, Cytovia and Novacardia. Dr. Weber also served as chairman or a member of the boards of directors of a number of companies until their sale including Peninsula Pharmaceuticals (sold to Johnson & Johnson in 2005), Cerexa (sold to Forest Laboratories in 2007) and Calixa Therapeutics, Inc. (sold to

Cubist Therapeutics, Inc. in 2009). He also served as a member of the board of directors of Conforma Therapeutics (sold to Biogen-IDEC in 2006) and Cabrellis Pharmaceuticals (sold to Pharmion in 2006). Until 1995, he was a tenured Professor of Pharmacology at the University of California, Irvine. He is the inventor or co-inventor of numerous patents and patent applications, and he has published more than 130 papers in scientific periodicals. Dr. Weber received his German undergraduate degree from Kolping Kolleg in Germany and an M.D. from the University of Ulm Medical School in Germany. He received his postdoctoral training in neuroscience at Stanford University Medical School. We believe that Dr. Weber's extensive experience in the life sciences industry as an entrepreneur, chief executive officer and venture capitalist, as well as his training as a physician, provide him with the qualifications and skills to serve as a director of our company.

Each of our officers serves at the discretion of our board of directors. Each of our directors holds office until his or her successor is duly elected and qualified or until his or her earlier resignation or removal. There are no family relationships among any of our directors or executive officers.

Board Composition

Certain members of our board of directors were elected pursuant to the provisions of our voting agreement. Under this agreement, our stockholders that are party to the agreement have agreed to vote their shares to elect to our board of directors: (i) one director designated by KPCB Holdings, Inc. (Dr. Seidenberg); (ii) one director designated by Domain Partners VIII, L.P. (Dr. Weber); (iii) one director designated by Alexandria Equities, LLC (Mr. Marcus); (iv) the person serving as Chief Executive Officer (Dr. Ciechanover); and (v) two individuals to serve as independent directors (Dr. Gallagher and Mr. Fust). This agreement will terminate upon the completion of this offering.

Our board may establish the authorized number of directors from time to time by resolution. Our board of directors currently consists of six members. In accordance with our amended and restated certificate of incorporation to be filed in connection with this offering, immediately after this offering, our board of directors will be divided into three classes with staggered three-year terms. At each annual general meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. Our directors will be divided among the three classes as follows:

- the Class I directors will be Drs. Seidenberg and Weber, and their terms will expire at the annual general meeting of stockholders to be held in 2015;
- the Class II directors will be Messrs. Fust and Marcus, and their terms will expire at the annual general meeting of stockholders to be held in 2016; and
- the Class III directors will be Drs. Ciechanover and Gallagher, and their terms will expire at the annual general meeting of stockholders to be held in 2017.

We expect that any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one third of the directors. The division of our board of directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change in control.

Director Independence

Generally, under the listing requirements and rules of Nasdaq, independent directors must comprise a majority of a listed company's board of directors within one year of the closing of this offering. Our board of directors has undertaken a review of its composition, the composition of its committees and the independence of each director. Our board of directors has determined that, other

than Isaac E. Ciechanover by virtue of his position as Chief Executive Officer, none of our directors has a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each is "independent" as that term is defined under the listing requirements of Nasdaq. Accordingly, a majority of our directors is independent, as required under applicable Nasdaq rules. In making this determination, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director.

Lead Independent Director

Our board of directors has appointed Dr. Gallagher to serve as our lead independent director. As lead independent director, Dr. Gallagher presides over periodic meetings of our independent directors, serves as a liaison between our Chief Executive Officer and the independent directors and performs such additional duties as our board of directors may otherwise determine and delegate.

Board Committees

Our board of directors has established an audit committee, compensation committee and nominating and corporate governance committee. Our board of directors may establish other committees to facilitate the management of our business. The expected composition and functions of each committee upon completion of this offering are described below. Members serve on these committees until their resignation or until otherwise determined by our board of directors.

Audit Committee

Our audit committee consists of Dr. Gallagher, Mr. Fust and Mr. Marcus. Each of the members of our audit committee satisfies the independence requirements under Nasdaq listing standards and Rule 10A-3(b)(1) of the Exchange Act. The chair of our audit committee is Mr. Fust, who our board of directors has determined is an "audit committee financial expert" within the meaning of SEC regulations. Our board of directors has also determined that each member of our audit committee has the requisite financial expertise required under the applicable requirements of Nasdaq. In arriving at this determination, the board has examined each audit committee member's scope of experience and the nature of their employment in the corporate finance sector. The primary functions of this committee include:

- reviewing and approving the engagement of our independent registered public accounting firm to perform audit services and any permissible non-audit services;
- evaluating the performance of our independent registered public accounting firm and deciding whether to retain their services;
- monitoring the rotation of partners on our engagement team of our independent registered public accounting firm;
- reviewing our annual and quarterly financial statements and reports and discussing the statements and reports with our independent registered public accounting firm and management, including a review of disclosures under "Management's Discussion and Analysis of Financial Condition and Results of Operations;"
- considering and approving or disapproving all related party transactions;
- reviewing, with our independent registered public accounting firm and management, significant issues that may arise regarding accounting principles and financial statement presentation, as well as matters concerning the scope, adequacy and effectiveness of our financial controls;

- conducting an annual assessment of the performance of the audit committee and its members, and the adequacy of its charter; and
- establishing procedures for the receipt, retention and treatment of complaints received by us regarding financial controls, accounting or auditing matters.

Compensation Committee

Our compensation committee consists of Dr. Gallagher, Mr. Marcus and Dr. Weber, each of whom our board of directors has determined to be independent under Nasdaq listing standards and the rules and regulations of the SEC, a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act and an "outside director" as that term is defined in Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code. The chair of our compensation committee is Mr. Marcus. The functions of this committee include:

- determining the compensation and other terms of employment of our chief executive officer and our other executive officers and reviewing and approving corporate performance goals and objectives relevant to such compensation;
- reviewing and recommending to the full board of directors the compensation of our directors;
- evaluating and administering the equity incentive plans, compensation plans and similar programs advisable for us, as well as reviewing and recommending to our board of directors the adoption, modification or termination of our plans and programs;
- establishing policies with respect to equity compensation arrangements;
- reviewing with management our disclosures under the caption "Compensation Discussion and Analysis" and recommending to the full board its inclusion in our periodic reports to be filed with the SEC; and
- reviewing and evaluating, at least annually, the performance of the compensation committee and the adequacy of its charter.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee consists of Mr. Fust, Dr. Gallagher and Dr. Seidenberg, each of whom our board of directors has determined to be independent under Nasdaq listing standards. The chair of our nominating and corporate governance committee is Dr. Seidenberg. The functions of this committee include:

- reviewing periodically and evaluating director performance on our board of directors and its applicable committees, and recommending to our board of directors and management areas for improvement;
- interviewing, evaluating, nominating and recommending individuals for membership on our board of directors;
- reviewing and recommending to our board of directors any amendments to our corporate governance policies; and
- reviewing and assessing, at least annually, the performance of the nominating and corporate governance committee and the adequacy of its charter.

Code of Business Conduct and Ethics

In connection with this offering, our board of directors will adopt a code of business conduct and ethics that applies to all of our employees, officers and directors, including those officers responsible

for financial reporting. Upon completion of this offering, our code of business conduct and ethics will be available on our website at www.atarabio.com. We intend to disclose any amendments to the code, or any waivers of its requirements, on our website to the extent required by the applicable rules and exchange requirements. The inclusion of our website address in this prospectus does not include or incorporate by reference into this prospectus the information on or accessible through our website.

Compensation Committee Interlocks and Insider Participation

None of the members of the compensation committee is currently or has been at any time one of our officers or employees. None of our executive officers currently serves, or has served during the last year, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of our board of directors or compensation committee.

Non-Employee Director Compensation

The following table sets forth information regarding compensation earned by or paid to our non-employee directors during 2013. Directors who are affiliated with our major stockholders or who are employed by us receive no additional compensation for their services as directors and are not set forth in the table below. We have reimbursed and will continue to reimburse Mr. Fust and Dr. Gallagher for their travel, lodging and other reasonable expenses incurred in attending meetings of our board of directors and committees of our board of directors.

Name	Fees Earned or Paid in Cash	RSU Awards(1)	Total
Carol Gallagher	$ 30,000	$ —	$30,000

(1) RSUs granted to our employees and service providers prior to this offering vest upon the satisfaction of both (i) a service-based vesting condition and (ii) a liquidity-based vesting condition. The liquidity-based vesting condition for such RSUs is: (a) the effective date of our initial public offering; or (b) a change of control (as defined in our 2012 Plans). As of December 31, 2013, Dr. Gallagher held 44,871 RSUs (after giving effect to the nine-for-one exchange in our recapitalization). The service-based vesting condition is satisfied at a rate of 1/48th of the total number of shares underlying the RSUs each month following the vesting start date, which was March 8, 2013, subject to continued service to us through each vesting date. As of December 31, 2013, 8,413 RSUs had satisfied the service condition. With regard to the 44,871 RSUs granted to Dr. Gallagher only, the time-based vesting condition will be deemed satisfied upon satisfaction of the liquidity-based vesting condition. In accordance with FASB ASC 718 and ASC 505-50, no grant date value was recognized for such RSUs because the liquidity event condition was not determined to be probable at that time. Assumptions used in the calculation of these amounts are included in Note 2 to our combined financial statements included elsewhere in this prospectus. These amounts do not reflect the actual economic value realized by the director.

In February 2014, our board of directors approved an annual cash retainer for Mr. Fust of $20,000 for service as chairman of our audit committee, which will increase to $40,000 following this offering. In addition, our board of directors approved the grant of 25,640 RSUs to Mr. Fust, which will vest upon the satisfaction of both (i) a service-based vesting condition and (ii) a liquidity-based vesting condition. The liquidity-based vesting condition for such RSUs is (a) the effective date of our initial public offering or (b) a change of control (as defined in our 2012 Plans). The service condition will be satisfied as to 25% of the shares underlying the RSUs upon completion of one year of service measured from the vesting start date, and thereafter an additional 1/48th of the total number of shares underlying the RSUs will vest in monthly installments, subject to continued service through each such vesting date.

In April 2014, our board of directors approved an increase to Dr. Gallagher's annual cash retainer of $15,000, to a total of $45,000, effective following this offering. Also in 2014, our board of directors approved the grant of 37,852 RSUs for Dr. Gallagher, subject to the same vesting terms as described above for Mr. Fust, except as to the service condition, which will be satisfied as to 1/48th of the total

number of shares underlying the RSUs in monthly installments, subject to continued service through each such vesting date.

Upon completion of this offering, our board of directors may also establish a compensation program for our non-employee directors.

EXECUTIVE COMPENSATION

2013 Summary Compensation Table

The following table sets forth information regarding the compensation awarded to or earned by the executive officers listed below from Atara and its subsidiaries during the year ended December 31, 2013. Throughout this prospectus, these officers are referred to as our named executive officers.

Name and Principal Position	Year	Salary	Bonus[1]	Stock Awards	All Other Compensation[2]	Total
Isaac E. Ciechanover *Chief Executive Officer*	2013	$370,000	$187,100	$ —	$ 4,689	$561,789
Christopher Haqq *Chief Medical Officer*	2013	310,000	93,000	—	100,351	503,351
Gad Soffer *Chief Operating Officer*	2013	188,854	55,937	—[3]	949	245,740

(1) Amounts reported in this column represent discretionary bonuses approved in January 2014 by our board of directors for fiscal year 2013 company and individual performance and monthly bonus of $4,800 for Dr. Ciechanover and $10,000 sign-on bonus for Gad Soffer.

(2) Amounts reported in this column represent life insurance premiums paid on behalf of the named executive officers, and (a) in the case of Dr. Haqq, also includes $98,500, representing the value of a discounted purchase price for shares of our common stock that he purchased in March 2013, as discussed in more detail under "—Employment Arrangements—Christopher Haqq" below and (b) in the case of Dr. Ciechanover, also includes a $3,000 medical insurance opt-out benefit. See also Note 7 to our combined financial statements included elsewhere in this prospectus for the compensation expenses associated with this discounted stock purchase, and a discounted stock purchase in 2012 by Dr. Ciechanover.

(3) In March 2013, Mr. Soffer received an award of 153,846 RSUs (after giving effect to the nine-for-one exchange in our recapitalization) which vest upon the satisfaction of both (i) a service-based vesting condition and (ii) a liquidity-based vesting condition. The liquidity-based vesting condition for such RSUs is (a) the effective date of our initial public offering or (b) a change of control (as defined in our 2012 Plans). The service-based vesting condition will be satisfied as to 25% of the shares underlying the RSUs upon completion of one year of service measured from the vesting start date, and thereafter an additional 1/48th of the total number of shares underlying the RSUs will vest in monthly installments, subject to continued service through each such vesting date. In accordance with FASB ASC 718 and ASC 505-50, no grant date value was recognized for such RSUs because the liquidity event condition was not determined to be probable at that time. Assumptions used in the calculation of these amounts are included in Note 2 to our combined financial statements included elsewhere in this prospectus. These amounts do not reflect the actual economic value realized by Mr. Soffer.

Outstanding Equity Awards at December 31, 2013

The following table provides information regarding outstanding equity awards held by our named executive officers as of December 31, 2013.

		Stock Awards	
Name	Grant Date	Number of Shares or Units of Stock That Have Not Vested[1]	Market Value of Shares or Units of Stock That Have Not Vested[2]
Isaac E. Ciechanover	8/30/12	629,326[3]	$ 1,681,738
	8/30/12	59,230[4]	158,281
Christopher Haqq	3/4/2013	177,163[5]	473,429
	3/4/2013	3,846[6]	10,278
Gad Soffer	3/25/2013	153,846[7]	411,120

(1) All share numbers are reported after giving effect to the nine-for-one exchange in our recapitalization.

(2) Market value for RSUs and restricted stock awards is calculated by multiplying the number of shares that have not vested by $2.672, the fair market value of one share of our common stock on December 31, 2013.

(3) Represents the unvested portion of 888,461 restricted shares purchased in August 2012 by the Isaac E. Ciechanover and Alison M. Ciechanover Family Trust dated 8/8/08, which shares are subject to vesting over four years, subject to Dr. Ciechanover's continuous service to us, commencing in October 2012.

(4) Represents the unvested portion of 177,692 restricted shares purchased by the Isaac E. Ciechanover and Alison M. Ciechanover Family Trust dated 8/8/08, which shares are subject to vesting according to performance criteria. These shares will vest upon completion of this offering.

(5) Represents the unvested portion of 257,692 restricted shares purchased in March 2013 by Dr. Haqq, which shares are subject to vesting over four years, subject to Dr. Haqq's continuous service to us, commencing in September 2012.

(6) Represents the unvested portion of 11,538 restricted shares purchased in March 2013 by Dr. Haqq, which shares are subject to vesting according to performance criteria. These shares will vest upon completion of this offering.

(7) Represents RSUs awarded in March 2013 under the 2012 Plans, which are subject to both (i) a service-based vesting condition and (ii) a liquidity-based vesting condition. The service-based vesting condition will be satisfied as to 25% of the shares underlying the RSUs upon completion of one year of service measured from the vesting start date, which is March 25, 2013, and thereafter an additional 1/48th of the total number of shares underlying the RSUs will vest in monthly installments, subject to continued service through each such vesting date. The liquidity-based vesting condition will be satisfied upon completion of this offering.

Employment Arrangements

We have entered into employment agreements with each of the named executive officers in connection with his commencement of employment with us. With the exception of his own arrangement, each of these employment agreements was negotiated on our behalf by our Chief Executive Officer, with the oversight and approval of our board of directors.

These arrangements provide for "at will" employment and set forth the initial terms and conditions of employment of each executive officer, including base salary, target bonus opportunity, standard employee benefit plan participation, a recommendation for initial equity awards, opportunities for post-employment compensation and vesting acceleration terms. These employment agreements were each subject to execution of our standard proprietary information and inventions agreement. See also "—Employee Benefit Plans —The 2012 Plans" below for a discussion of certain accelerated vesting benefits on a change in control of Atara, Nina, Pinta or Santa Maria.

Isaac E. Ciechanover

We entered into an amended and restated employment agreement with Isaac E. Ciechanover, our President and Chief Executive Officer, in March 2014. The employment agreement provides for a base salary of $381,100, a target monthly bonus of $4,800 and a target annual bonus of $133,385.

Pursuant to Dr. Ciechanover's original employment agreement, he was given the right to purchase 888,461 shares of common stock. These shares, which were purchased in August 2012, vest over four years commencing in October 2012. However, in the event we engage in a change in control, all of these shares will vest upon the completion of such change in control. In addition, Dr. Ciechanover's original employment agreement gave Dr. Ciechanover the right to purchase an additional 177,692 shares of common stock. Of these shares, which were also purchased in August 2012, 118,462 have vested based on the completion of our prior equity financings and other performance criteria. The remaining 59,230 shares will vest as a result of the completion of this offering. We have the right to repurchase all unvested shares at their original cost of $0.0039 per share in the event Dr. Ciechanover ceases to be in continuous service to us. At the time of purchase, we determined the fair market value of the shares being purchased to be $0.117 per share. Per the terms of Dr. Ciechanover's original employment agreement, we paid him a bonus of $101,689 in 2012 in order to reimburse him for the income taxes attributable to purchasing the shares for less than their fair market value.

In the event Dr. Ciechanover's employment is terminated by us without cause, he will be entitled to receive the following benefits:

- A lump-sum severance payment equal to the sum of six months of his then-current base salary, six months of his target monthly bonus, six months of health insurance premiums and, if we pay bonuses to any other employee during the fiscal year in which Dr. Ciechanover's employment terminates, 100% of his target bonus for that year; and
- Vesting of his stock to the extent of the number of shares that would have vested during the six months following termination of employment had his employment not terminated.

The receipt of any termination-based payments or benefits by Dr. Ciechanover is subject to his execution and the effectiveness of a release of claims against Atara.

Christopher Haqq

We entered into an amended and restated employment agreement with Christopher Haqq, our Chief Medical Officer, in March 2014. The employment agreement provides for a base salary of $319,300 and a target annual bonus of $95,790.

Pursuant to Dr. Haqq's original employment agreement, Dr. Haqq was granted the right to purchase 269,230 shares of common stock. These shares were purchased in March 2013 at a discounted purchase price of $1.230 per share (at a time when our common stock had a value of $1.63 per share). Of these shares, 257,692 vest over four years commencing in September 2012. However, in the event we engage in a change in control, all of these shares will vest upon the completion of such change in control. The remaining 11,538 shares of common stock are subject to performance- based vesting, 3,846 of which have previously vested based on the completion of our prior equity financings and other performance criteria, 3,846 of which have previously vested upon completion of the pre-IND submission for STM 434 and other performance criteria, and 3,846 shares of which will vest as a result of the completion of this offering. We have the right to repurchase all unvested shares at their original cost of $1.230 per share in the event Dr. Haqq ceases to be in continuous service to us.

In the event Dr. Haqq's employment is terminated by us without cause, he will be entitled to receive the following benefits:

- A lump-sum severance payment equal to the sum of three months of his then-current base salary and three months of health insurance premiums; and
- Vesting of his stock to the extent of the number of shares that would have vested during the three months following termination of employment had his employment not terminated.

The receipt of any termination-based payments or benefits by Dr. Haqq is subject to his execution and the effectiveness of a release of claims against Atara.

Gad Soffer

We entered into an amended and restated employment agreement with Gad Soffer, our Chief Operating Officer, in March 2014. The employment agreement provides for a base salary of $252,350 and a target annual bonus of $63,088. Mr. Soffer is not entitled to any termination-based payments or benefits under the terms of his employment agreement.

Employee Benefit Plans

The principal features of our equity incentive plans are summarized below. These summaries are qualified in their entirety by reference to the actual text of the plans, which are filed as exhibits to the registration statement of which this prospectus is a part.

2014 Equity Incentive Plan

Our board of directors adopted our 2014 Plan in March 2014 and amended and restated our 2014 Plan in May 2014. Our stockholders approved our 2014 Plan in June 2014. Our 2014 Plan is the successor to and continuation of the 2012 Plans (defined and described below). Our 2014 Plan provides for the grant of incentive stock options, or ISOs, to our employees and for the grant of nonstatutory stock options, or NSOs, stock appreciation rights, restricted stock awards, RSU awards, performance stock awards, performance cash awards, and other forms of equity compensation to our employees, directors, and consultants.

Authorized shares. The maximum number of shares of our common stock that may be issued pursuant to stock awards under our 2014 Plan is equal to 3,526,153. Additionally, the number of shares of our common stock reserved for issuance pursuant to stock awards under our 2014 Plan will automatically increase on January 1 of each year for a period of up to ten years, beginning on January 1, 2015 and ending on and including January 1, 2024, by 5% of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors. The maximum number of shares of our common stock that may be issued upon the exercise of ISOs under our 2014 Plan is 11,538,461.

Shares subject to stock awards granted under our 2014 Plan that expire or terminate without being exercised in full, or that are paid out in cash rather than in shares, do not reduce the number of shares available for issuance under our 2014 Plan. Additionally, shares issued pursuant to stock awards under our 2014 Plan that we repurchase or that are forfeited, as well as shares used to pay the exercise price of a stock award or to satisfy the tax withholding obligations related to a stock award, become available for future grant under our 2014 Plan.

Plan administration. Our board of directors, or a duly authorized committee of our board of directors, will administer our 2014 Plan. Our board of directors may also delegate to one or more of our officers the authority to (1) designate employees (other than officers) to receive specified stock awards, and (2) determine the number of shares subject to such stock awards. Subject to the terms of our 2014 Plan, the board of directors has the authority to determine the terms of awards, including recipients, the exercise, purchase or strike price of stock awards, if any, the number of shares subject to each stock award, the fair market value of a share of our common stock, the vesting schedule applicable to the awards, together with any vesting acceleration, and the form of consideration, if any, payable upon exercise or settlement of the award and the terms of the award agreements for use under our 2014 Plan.

The board of directors has the power to modify outstanding awards under our 2014 Plan. The board of directors has the authority to reprice any outstanding option or stock appreciation right, cancel any outstanding stock award in exchange for new stock awards, cash or other consideration, or take any other action that is treated as a repricing under GAAP, with the consent of any adversely affected participant.

Section 162(m) limits. At such time as necessary for compliance with Section 162(m) of the Code, no participant may be granted stock awards that are intended to comply with Section 162(m) of the Code covering more than 1,538,461 shares of our common stock under our 2014 Plan during any calendar year pursuant to stock options, stock appreciation rights and other stock awards whose value is determined by reference to an increase over an exercise price or strike price of at least 100% of the fair market value of our common stock on the date of grant. Additionally, no participant may be granted in a calendar year a performance stock award covering more than 1,538,461 shares of our common stock or a performance cash award having a maximum value in excess of $2,000,000 under our 2014 Plan. These limitations are intended to give us the flexibility to grant compensation that will not be subject to the $1,000,000 annual limitation on the income tax deductibility imposed by Section 162(m) of the Code.

Performance awards. We believe our 2014 Plan permits the grant of performance-based stock and cash awards that may qualify as performance-based compensation that is not subject to the

$1,000,000 limitation on the income tax deductibility imposed by Section 162(m) of the Code. Our compensation committee may structure awards so that the stock or cash will be issued or paid only following the achievement of certain pre-established performance goals during a designated performance period.

Our compensation committee may establish performance goals by selecting from one or more of the following performance criteria: (1) profit before tax; (2) billings; (3) revenues; (4) net revenues; (5) earnings (which may include earnings before interest and taxes, earnings before taxes, and net earnings); (6) operating income; (7) operating margin; (8) operating profit; (9) controllable operating profit, or net operating profit; (10) net profit; (11) gross margin; (12) operating expenses or operating expenses as a percentage of revenue; (13) net income; (14) earnings per share; (15) total stockholder return; (16) market share; (17) return on assets or net assets; (18) our stock price; (19) growth in stockholder value relative to a pre-determined index; (20) return on equity; (21) return on invested capital; (22) cash flow (including free cash flow or operating cash flows); (23) cash conversion cycle; (24) economic value added; (25) individual confidential business objectives; (26) contract awards or backlog; (27) overhead or other expense reduction; (28) credit rating; (29) strategic plan development and implementation; (30) succession plan development and implementation; (31) improvement in workforce diversity; (32) customer indicators; (33) new product invention or innovation; (34) attainment of research and development milestones; (35) improvements in productivity; (36) bookings; (37) initiation of phases of clinical trials and/or studies by specified dates; (38) regulatory body approval with respect to products, studies and/or trials; (39) patient enrollment dates; (40) commercial launch of products; and (41) to the extent that an award is not intended to comply with Section 162(m) of the Code, other measures of performance selected by our board of directors or compensation committee.

Our compensation committee may establish performance goals on a company-wide basis, with respect to one or more business units, divisions, affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless otherwise specified by our board of directors (i) in the award agreement at the time the award is granted or (ii) in such other document setting forth the performance goals at the time the performance goals are established, our compensation committee will appropriately make adjustments in the method of calculating the attainment of the performance goals as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to GAAP; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of any “extraordinary items” as determined under GAAP; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by our company achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of our common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under our bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under GAAP; (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under GAAP; (12) to exclude the effect of any other unusual, non-recurring gain or loss or other extraordinary item; (13) to exclude the effects of the timing of acceptance for review and/or approval of submissions to the FDA or any other regulatory body; and (14) to exclude the effects of entering into or achieving milestones involved in licensing joint ventures.

Corporate transactions. Our 2014 Plan provides that in the event of certain specified significant corporate transactions, as defined under our 2014 Plan, each outstanding award will be treated as the administrator determines. The administrator may (1) arrange for the assumption,

continuation or substitution of a stock award by a successor corporation; (2) arrange for the assignment of any reacquisition or repurchase rights held by us to a successor corporation; (3) accelerate the vesting, in whole or in part, of the stock award and provide for its termination prior to the transaction; (4) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us; (5) cancel or arrange for the cancellation of the stock award prior to the transaction in exchange for a cash payment, if any, determined by the board of directors; or (6) cancel or arrange for the cancellation of the stock award prior to the transaction in exchange for a payment, in such form as may be determined by our board of directors equal to the excess, if any, of the value of the property the participant would have received upon the exercise of the stock award immediately prior to the transaction over any exercise price payable by such holder in connection with such exercise. The plan administrator is not obligated to treat all stock awards or portions of stock awards, even those that are of the same type, in the same manner.

Transferability. A participant may not transfer stock awards under our 2014 Plan other than by will, the laws of descent and distribution, or as otherwise provided under our 2014 Plan.

Plan amendment or termination. Our board of directors has the authority to amend, suspend, or terminate our 2014 Plan, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. No awards may be granted after the tenth anniversary of the date our board of directors adopted our 2014 Plan. No stock awards may be granted under our 2014 Plan while it is suspended or after it is terminated.

The 2012 Plans

The board of directors of each of Nina, Pinta and Santa Maria initially adopted, and their stockholders approved, substantially the same form of equity incentive plan in November 2012, which we refer to as the 2012 Plans. The 2012 Plans each provide for the grant of stock options (ISOs and NSOs), stock appreciation rights, restricted stock awards and RSU awards to their employees, directors, and consultants. To date, only restricted stock awards and RSUs have been awarded under the 2012 Plans. Prior to the recapitalization, each RSU granted under a 2012 Plan covered shares of common stock of Nina, Pinta or Santa Maria, as applicable. In connection with the recapitalization, we assumed the 2012 Plans and all outstanding RSUs issued under such plans and, as a result, all RSUs granted under each such plan automatically became settleable for shares of our common stock.

Upon the recapitalization and the adoption of our 2014 Plan, no additional awards shall be granted under any 2012 Plan in the future. However, any outstanding RSUs already granted under a 2012 Plan will remain outstanding, subject to the terms of such plans and the applicable RSU award agreements, until such outstanding awards are settled or until they terminate or expire by their terms.

Authorized Shares. The maximum number of shares of our common stock that may be issued directly or indirectly under the 2012 Plans was 2,449,230.

Plan Administration. Our board of directors administers the 2012 Plans. Subject to the terms of the 2012 Plans, the board of directors has the authority to determine, amend and rescind rules and regulations of the Plan.

Corporate Transactions. The 2012 Plans each provide that in the event of certain specified significant corporate transactions, each outstanding award will be subject to the terms of the applicable transaction agreement. Such transaction agreement may provide, without limitation, for the assumption or substitution of awards, for their continuation, for accelerated vesting or for cancellation with or without consideration, in all cases without the consent of the award holder.

Accelerated Vesting of RSUs upon Change in Control. Each RSU awarded under a 2012 Plan to our named executive officers and directors provides that upon a change in control of Nina, Pinta or Santa Maria, the service-based vesting condition for such entity undergoing a change in control will be satisfied upon the occurrence of such change in control. In addition, in connection with our recapitalization we amended the RSUs held by our named executive officers and directors to provide that on a change in control of Atara, all RSUs (regardless of the 2012 Plan under which they were issued) the service-based vesting condition for RSUs will become fully vested upon the occurrence of such change in control.

Plan Amendment or Termination. Our board of directors has the authority to amend, or terminate the 2012 Plans, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. As described above, no future equity awards will be granted under such plans.

2014 Employee Stock Purchase Plan

Our board of directors adopted our ESPP in May 2014, and our stockholders approved our ESPP in June 2014. Our ESPP includes both a component that is intended to qualify as an employee stock purchase plan under Section 423 of the Code and a component that is not intended to so qualify. The purpose of the non-423 component of our ESPP is to authorize the grant of purchase rights that do not meet the requirements of an employee stock purchase plan to achieve tax, regulatory or other objectives. The first offering period under our ESPP will begin and end upon a date to be approved by our board of directors or the compensation committee.

Authorized shares. The maximum aggregate number of shares of our common stock that may be issued under our ESPP is 230,769 shares. Additionally, the number of shares of our common stock reserved for issuance under our ESPP will increase automatically each year for a period of up to ten years, beginning on January 1, 2015 and continuing through and including January 1, 2024, by the lesser of (1) 1% of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year; (2) 230,769 shares of common stock; or (3) such lesser number as determined by our board of directors. The stock purchasable under the ESPP will be shares of authorized but unissued or reacquired common stock, including shares repurchased by us in the open market. Shares subject to purchase rights granted under our ESPP that terminate without having been exercised in full will be available for grant under our ESPP.

Plan administration. Our board of directors will administer our ESPP. Our board of directors may delegate authority to administer our ESPP to our compensation committee. The administrator may approve offerings with a duration of not more than 27 months, and may specify one or more shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of our common stock will be purchased for the employees who are participating in the offering. The administrator, in its discretion, will determine the terms of offerings under our ESPP including determining which of our designated affiliates will be eligible to participate in the 423 component of our ESPP and which of our designated affiliates will be eligible to participate in the non-423 component of our ESPP.

Eligibility. Our employees, including executive officers, may have to satisfy one or more of the following service requirements before participating in our ESPP, as determined by the administrator: (1) customary employment for more than 20 hours per week and more than five months per calendar year, or (2) continuous employment for a minimum period of time, not to exceed two years. An employee may not be granted rights to purchase stock under our ESPP if such employee (a) immediately after the grant would own stock possessing 5% or more of the total combined voting power or value of our common stock; or (b) holds rights to purchase stock under our ESPP that would accrue at a rate that exceeds $25,000 worth of our stock for each calendar year that the rights remain outstanding.

Purchase rights and purchase price. Our ESPP permits participants to purchase shares of our common stock through payroll deductions or other methods with up to 15% of their earnings. The purchase price of the shares will be not less than 85% of the lower of the fair market value of our common stock on the first day of an offering or on the date of purchase.

Transferability. A participant may not transfer purchase rights under our ESPP other than by will, the laws of descent and distribution, or as otherwise provided under our ESPP.

Corporate transactions. In the event of a specified corporate transaction, such as a merger or change in control, a successor corporation may assume, continue or substitute each outstanding purchase right. If the successor corporation does not assume, continue or substitute for the outstanding purchase rights, the offering in progress may be shortened and a new exercise date will be set, so that the participants' purchase rights can be exercised and terminate immediately thereafter.

Plan amendment or termination. Our board of directors has the authority to amend, suspend or terminate our ESPP, at any time and for any reason. Any benefits, privileges, entitlements and obligations under any outstanding purchase rights granted before an amendment, suspension or termination of the ESPP will not be materially impaired except (1) with the participant's consent; (2) to comply with any laws, listing requirements, or regulations; or (3) to obtain or maintain favorable tax, listing or regulatory treatment.

Limitation on Liability and Indemnification Matters

Our amended and restated certificate of incorporation and restated bylaws, each to be effective upon the completion of this offering, will provide that we will indemnify our directors and officers, and may indemnify our employees and other agents, to the fullest extent permitted by the Delaware General Corporation Law. However, Delaware law prohibits our amended and restated certificate of incorporation from limiting the liability of our directors for the following:

- any breach of a director's duty of loyalty to us or to our stockholders;
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or unlawful stock repurchases or redemptions; and
- any transaction from which a director derived an improper personal benefit.

If Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director, then the liability of our directors will be eliminated or limited to the fullest extent permitted by Delaware law, as so amended. Our amended and restated certificate of incorporation does not eliminate a director's duty of care and, in appropriate circumstances, equitable remedies, such as injunctive or other forms of non-monetary relief, remain available under Delaware law. It also does not affect a director's responsibilities under any other laws, such as the federal securities laws or other state or federal laws. Under our amended and restated bylaws, we will also be empowered to enter into indemnification agreements with our directors, officers, employees and other agents and to purchase insurance on behalf of any person whom we are required or permitted to indemnify.

In addition to the indemnification required in our amended and restated certificate of incorporation and amended and restated bylaws, we have entered into indemnification agreements with each of our current directors and executive officers. These agreements provide for the indemnification of such persons for all reasonable expenses and liabilities incurred in connection with any action or proceeding brought against them by reason of the fact that they are or were serving in such capacity. We believe that these certificate of incorporation and bylaws provisions and indemnification agreements are necessary to

attract and retain qualified persons as directors, officers and employees. Furthermore, we have obtained director and officer liability insurance to cover liabilities our directors and officers may incur in connection with their services to us and expect to increase the level upon completion of this offering.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our stockholders. A stockholder's investment may be harmed to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable. There is no pending litigation or proceeding naming any of our directors or officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or officer.

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

The following is a description of transactions since our formation in August 2012, to which we have been a party, in which the amount involved exceeded or will exceed $120,000, and in which any of our executive officers, directors, promoters or holders of more than 5% of any class of our voting securities, or an affiliate or immediate family member thereof, had or will have a direct or indirect material interest, other than compensation, termination and change in control arrangements, which are described under "Executive Compensation." Dr. Ciechanover, our Chief Executive Officer and founder, and entities affiliated with Kleiner Perkins Caufield & Byers may be deemed to be promoters within the meaning of SEC rules under the Securities Act. We believe the terms obtained or consideration that we paid or received, as applicable, in connection with the transactions described below were comparable to terms available or the amounts that would be paid or received, as applicable, in arm's-length transactions with unrelated third parties.

Series A Preferred Stock Financing

In October 2012, January 2013 and March 2013, we issued and sold an aggregate of 5,150,699 shares of our Series A preferred stock for approximately $3.90 per share, for aggregate consideration of approximately $20.1 million. The table below sets forth the number of shares of Series A preferred stock purchased by our executive officers, directors and stockholders who held more than 5% of any class of our voting securities and their affiliates, to the extent they purchased in excess of $120,000 of our Series A preferred stock. For each share of preferred stock set forth in the table below, the holder will receive, upon conversion, one share of our common stock upon the closing of this offering.

	Number of Shares of Series A Preferred Stock	Aggregate Purchase Price
Entities affiliated with Kleiner Perkins Caufield & Byers[1]	1,282,050	$5,000,000
Entities affiliated with Domain Associates[2]	1,282,050	$5,000,000
Entities affiliated with DAG Ventures	1,282,050	$5,000,000
Inmobiliaria Carso S.A. de C.V.	897,435	$3,500,000
Alexandria Real Estate Equities, Inc.[3]	256,410	$1,000,000

(1) Beth Seidenberg, a member of our board of directors, is affiliated with Kleiner Perkins Caufield & Byers.
(2) Eckard Weber, a member of our board of directors, is associated with Domain Associates. Dr. Weber has no voting or dispositive control with respect to the shares held by entities affiliated with Domain Associates.
(3) Joel S. Marcus, a member of our board of directors, is affiliated with Alexandria Real Estate Equities, Inc.

Amgen Agreements and Series A-1 Preferred Stock Issuance

For a description of our agreements with Amgen, see "Business—License Agreements." In consideration for entering into our exclusive license agreements with Amgen, we also issued 615,384 shares of our Series A-1 preferred stock to Amgen. Amgen will receive, upon conversion, one share of our common stock for each share of Series A-1 preferred stock held by Amgen upon the closing of this offering.

Series B Preferred Stock Financing

From November 2013 through January 2014, we issued and sold an aggregate of 6,532,432 shares of our Series B preferred stock for approximately $7.96 per share, for aggregate consideration of approximately $52.0 million. The table below sets forth the number of shares of Series B preferred stock purchased by our executive officers, directors and stockholders who held more than 5% of any class of our voting securities and their affiliates, to the extent they purchased more than $120,000 of our Series B preferred stock. For each share of preferred stock set forth in the table below, the holder will receive, upon conversion, one share of our common stock upon the closing of this offering.

	Number of Shares of Series B Preferred Stock	Aggregate Purchase Price
Entities affiliated with The Baupost Group, L.L.C.	1,695,913	$13,500,001
Celgene Corporation	1,256,235	$10,000,000
Amgen Inc.	628,117	$ 4,999,999
Entities affiliated with Domain Associates(1)	625,382	$ 4,978,233
Entities affiliated with DAG Ventures	625,382	$ 4,978,233
Entities affiliated with Kleiner Perkins Caufield & Byers(2)	625,370	$ 4,978,129
Alexandria Real Estate Equities, Inc.(3)	501,945	$ 3,995,631
Inmobiliaria Carso S.A. de C.V.	437,767	$ 3,484,762

(1) Eckard Weber, a member of our board of directors, is associated with Domain Associates. Dr. Weber has no voting or dispositive control with respect to the shares held by entities affiliated with Domain Associates.
(2) Beth Seidenberg, a member of our board of directors, is affiliated with Kleiner Perkins Caufield & Byers.
(3) Joel S. Marcus, a member of our board of directors, is affiliated with Alexandria Real Estate Equities, Inc.

Voting Agreement

We have entered into a voting agreement with certain holders of our common stock and preferred stock, including certain of our named executive officers and directors and entities with which certain of our directors are affiliated, with respect to the election of our directors and certain other matters. All of our current directors were elected pursuant to the terms of this agreement. The voting agreement will terminate upon the closing of this offering. For more information, see “Management—Board Composition.”

Right of First Refusal and Co-Sale Agreement

We have entered into a right of first refusal and co-sale agreement with certain holders of our common stock and preferred stock, including certain of our named executive officers and directors and entities with which certain of our directors are affiliated. This agreement provides the holders of preferred stock a right of purchase and a right of co-sale in respect of sales of securities by certain holders of our common stock and preferred stock. These rights of purchase and co-sale will terminate upon the closing of this offering.

Investors’ Rights Agreement

We have entered into an investors’ rights agreement with certain holders of our common stock and preferred stock, including certain of our named executive officers and directors and entities with which certain of our directors are affiliated. This agreement provides that the holders of common stock issuable upon conversion of our preferred stock have the right to demand that we file a registration

statement or request that their shares of common stock be covered by a registration statement that we are otherwise filing. With respect to this offering, the registration rights have been validly waived. In addition to the registration rights, the investors' rights agreement provides for certain information rights and rights of first refusal. The provisions of the investors' rights agreement, other than those relating to registration rights, will terminate upon the closing of this offering. For more information regarding this agreement, see "Description of Capital Stock—Registration Rights."

Indemnification Agreements

We have entered into indemnification agreements with each of our directors and executive officers. For more information regarding these agreements, see "Executive Compensation—Limitation on Liability and Indemnification Matters."

Policies and Procedures for Transactions with Related Persons

We intend to adopt a policy that our executive officers, directors, nominees for election as a director, beneficial owners of more than 5% of any class of our common stock and any members of the immediate family of any of the foregoing persons are not permitted to enter into a related person transaction with us without the prior consent of our audit committee. Any request for us to enter into a transaction with an executive officer, director, nominee for election as a director, beneficial owner of more than 5% of any class of our voting securities or any member of the immediate family of any of the foregoing persons, in which the amount involved exceeds $120,000 and such person would have a direct or indirect interest, must first be presented to our audit committee for review, consideration and approval. In approving or rejecting any such proposal, our audit committee is to consider the material facts of the transaction, including, but not limited to, whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related person's interest in the transaction. All of the transactions described above were entered into prior to the adoption of such policy, but after presentation, consideration and approval by our board of directors.

PRINCIPAL STOCKHOLDERS

The following table sets forth, as of March 31, 2014, information regarding beneficial ownership of our capital stock by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock;
- each of our named executive officers;
- each of our directors; and
- all of our current executive officers and directors as a group.

Beneficial ownership is determined according to the rules of the SEC and generally means that a person has beneficial ownership of a security if he, she or it possesses sole or shared voting or investment power of that security, including RSUs pursuant to which securities may issue within 60 days of March 31, 2014. Except as indicated by the footnotes below, we believe, based on the information furnished to us, that the persons named in the table below have sole voting and investment power with respect to all shares of common stock shown that they beneficially own, subject to community property laws where applicable. The information does not necessarily indicate beneficial ownership for any other purpose, including for purposes of Sections 13(d) and 13(g) of the Securities Act.

Our calculation of the percentage of beneficial ownership prior to this offering is based on 14,403,128 shares of our common stock (including preferred stock on an as-converted basis) outstanding as of March 31, 2014. We have based our calculation of the percentage of beneficial ownership after this offering on 19,403,128 shares of our common stock outstanding immediately after the closing of this offering (assuming no exercise of the underwriters' option to purchase additional shares of common stock).

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Atara Biotherapeutics, Inc., 3260 Bayshore Boulevard, Brisbane, California 94005.

Name of beneficial owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
		Before Offering	After Offering
5% Stockholders:			
Entities affiliated with Kleiner Perkins Caufield & Byers[1]	2,676,650	18.6%	13.8%
Entities affiliated with Domain Associates[2]	1,907,432	13.2%	9.8%
Entities affiliated with DAG Ventures[3]	1,907,432	13.2%	9.8%
Entities affiliated with the Baupost Group LLC[4]	1,695,913	11.8%	8.7%
Inmobiliaria Carso S.A. de C.V.[5]	1,335,202	9.3%	6.9%
Celgene Corporation[6]	1,256,235	8.7%	6.5%
Amgen Inc.[7]	1,243,501	8.6%	6.4%
Isaac E. Ciechanover[8]	1,066,153	7.4%	5.5%
Alexandria Real Estate Equities, Inc.[9]	758,355	5.3%	3.9%
Executive Officers and Directors:			
Isaac E. Ciechanover[8]	1,066,153	7.4%	5.5%
Mitchall G. Clark[10]	—	—	—
Christopher Haqq[11]	269,230	1.9%	1.4%
John F. McGrath, Jr.[12]	—	—	—
Gad Soffer[13]	—	—	—
Matthew K. Fust[14]	—	—	—
Carol Gallagher[15]	33,475	*	*
Joel S. Marcus[9]	758,355	5.3%	3.9%
Beth Seidenberg[1]	2,676,650	18.6%	13.8%
Eckard Weber[2]	—	—	
All executive officers and directors as a group (10 persons)[16]	4,803,863	33.4%	24.8%

* Represents beneficial ownership of less than 1% of the outstanding common stock.

(1) Consists of 2,599,027 shares of common stock held by Kleiner Perkins Caufield & Byers XV, LLC ("KPCB XV") and 77,623 shares of common stock held by KPCB XV Founders Fund, LLC ("KPCB XV FF"). All shares are held for convenience in the name of "KPCB Holdings, Inc., as nominee" for the accounts of such entities. The managing member of KPCB XV and KPCB XV FF is KPCB XV Associates, LLC ("KPCB XV Associates"). Michael Abbott, L. John Doerr, William Gordon, Wen Hsieh, Randy Komisar, Matthew Murphy, Theodore Schlein and Dr. Seidenberg, the managing members of KPCB XV Associates, exercise shared voting and dispositive control over the shares held by KPCB XV. Dr. Seidenberg disclaims beneficial ownership of all shares held by KPCB XV except to the extent of her pecuniary interest therein. The principal business address for all entities and individuals affiliated with Kleiner Perkins Caufield & Byers is 2750 Sand Hill Road, Menlo Park, CA 94025.

(2) Includes 1,893,383 shares of common stock held by Domain Partners VIII, L.P. and 14,049 shares of common stock held by DP VIII Associates, L.P. The general partner of Domain Partners VIII, L.P. and DP VIII Associates, L.P. is One Palmer Square Associates VIII, L.P. James C. Blair, Brian H. Dovey, Jesse I. Treu, Kathleen K. Schoemaker, Brian K. Halak and Nicole Vitullo, the managing members of One Palmer Square Associates VIII, L.L.C., share the power to vote or dispose of the shares held by each such entity. Dr. Weber, a member of our board of directors is an employee of Domain Associates and a member of One Palmer Square Associates VIII, L.L.C. Dr. Weber has no voting or investment control with respect to any of the above noted holdings. Dr. Weber disclaims beneficial ownership of the shares reflected above as beneficially owned by Domain Partners VIII, L.P. and DP VIII Associates, L.P. except to the extent of his pecuniary interest therein. The principal business address of Domain Partners VIII, L.P. and DP VIII Associates, L.P. is One Palmer Square, Suite 515, Princeton, NJ 08542.

(3) Includes 1,902,798 shares of common stock held by DAG Ventures V-QP, L.P. and 4,634 shares of common stock held by DAG Ventures V, L.P. The general partner of DAG Ventures V, L.P. is DAG Ventures Management V, LLC. John J. Cadeddu, Greg Williams, Young J. Chung, Nick Pianim and R. Thomas Goodrich, the managing members of DAG Ventures Management V, LLC, share the power to vote or dispose of the shares held by each such entity. The principal business address of DAG Ventures V-QP, L.P. and DAG Ventures V, L.P. is 251 Lytton Avenue, Suite 200, Palo Alto, CA 94301.

(4) The Baupost Group, LLC, of Baupost, manager to Baupost Group Securities, L.L.C., and each of SAK Corp., the manager of Baupost, and Seth A. Klarman, the director of SAK Corp., may be deemed to share voting and investment power with respect to such shares. Baupost's address is 10 St. James Avenue, Suite 1700, Boston, MA 02116.

(5) Represents shares held by Control Empresarial de Capitales, S.A. de C.V., a subsidiary of Inmobiliaria Carso S.A. de C.V., or Inmobiliaria. Carlos Slim Helú, Carlos Slim Domit, Marco Antonio Slim Domit, Patrick Slim Domit, María Soumaya Slim Domit, Vanessa Paola Slim Domit and Johanna Monique Slim Domit are beneficiaries of a Mexican trust that in turn owns substantially all of the issued and outstanding voting securities of Inmobiliaria. The address for this stockholder is c/o Inmobiliaria Carso S.A. de C.V., Paseo de las Palmas 750, 6th Floor, Lomas de Chapultepec, Mexico, D.F., 11000.

(6) The address for this stockholder is 86 Morris Avenue, Summit, NJ 07901.

(7) Includes 628,117 shares of common stock held by Amgen Investments Ltd., an affiliate of Amgen Inc., and 615,384 shares of common stock held by Amgen Inc. The address for Amgen Inc. is One Amgen Center Drive, Mail Stop 28-5-C, Thousand Oaks, CA 91320.

(8) Represents shares held by the Isaac E. Ciechanover and Allison M. Ciechanover Family Trust dated 8/8/08. Dr. Ciechanover also held RSUs for 94,523 shares of common stock that would not be expected to settle within 60 days after March 31, 2014.

(9) Represents shares held by Alexandria Equities, LLC, an affiliate of Alexandria Real Estate Equities, Inc. The address for this stockholder is 385 East Colorado Boulevard, Suite 299, Pasadena, CA 91101.

(10) As of March 31, 2014, Mr. Clark also held RSUs for 115,384 shares of common that would not be expected to settle within 60 days after March 31, 2014.

(11) As of March 31, 2014, Mr. Haqq also held RSUs for 13,266 shares of common that would not be expected to settle within 60 days after March 31, 2014.

(12) As of March 31, 2014, Mr. McGrath also held RSUs for 168,029 shares of common stock that would not be expected to settle within 60 days after December 31, 2013.

(13) As of March 31, 2014, Mr. Soffer also held RSUs for 220,178 shares of common stock that would not be expected to settle within 60 days after March 31, 2014.

(14) As of March 31, 2014, Mr. Fust also held RSUs for 25,640 shares of common that would not be expected to settle within 60 days after March 31, 2014.

(15) Represents shares of common stock held by the Gallagher Revocable Trust. As of March 31, 2014, Dr. Gallagher also held RSUs for 82,723 shares of common stock that would not be expected to settle within 60 days after March 31, 2014.

(16) As of March 31, 2014, our directors and executive officers also held RSUs for 719,743 shares of common stock that would not be expected to settle within 60 days after March 31, 2014.

DESCRIPTION OF CAPITAL STOCK

General

The following description of our capital stock summarizes the most important terms of our capital stock as they are expected to be in effect upon the closing of this offering. The descriptions of our capital stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to the amended and restated certificate of incorporation and the amended and restated bylaws that will be in effect upon the closing of this offering. Copies of these documents will be filed with the SEC as exhibits to our registration statement, of which this prospectus forms a part.

Our amended and restated certificate of incorporation provides for common stock and will undesignated preferred stock, the rights, preferences and privileges of which may be designated from time to time by our board of directors.

Upon the closing of this offering, our authorized capital stock will consist of 520,000,000 shares, all with a par value of $0.0001 per share, of which 500,000,000 shares will be designated as common stock and 20,000,000 shares will be designated as preferred stock.

As of March 31, 2014, we had outstanding 14,403,128 shares of common stock, which assumes the conversion of all 12,298,515 shares of preferred stock outstanding as of March 31, 2014 into the same number of shares of common stock upon the closing of this offering. Our outstanding capital stock was held by approximately 16 stockholders of record as of March 31, 2014. As of March 31, 2014, we also had outstanding RSUs for 885,959 shares of common stock held by employees, directors and consultants pursuant to our 2012 Plans.

Common Stock

The holders of our common stock are entitled to one vote per share on all matters submitted to a vote of our stockholders. Subject to preferences that may be applicable to any preferred stock outstanding at the time, the holders of outstanding shares of common stock are entitled to receive ratably any dividends declared by our board of directors out of assets legally available therefor. In the event that we liquidate, dissolve or wind up, holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preference of any then outstanding shares of preferred stock. Holders of common stock have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of common stock are, and all shares of common stock to be outstanding upon completion of this offering will be, fully paid and nonassessable.

Preferred Stock

As of March 31, 2014, there were 12,298,515 shares of our preferred stock outstanding, which will convert into 12,298,515 shares of our common stock upon the closing of this offering.

Upon the closing of this offering, our board of directors may, without further action by our stockholders, fix the rights, preferences, privileges and restrictions of up to an aggregate of 20,000,000 shares of preferred stock in one or more series and authorize their issuance, subject to the approval rights of the common stock described above. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences,

sinking fund terms and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of our common stock or common stock. The issuance of our preferred stock could adversely affect the voting power of holders of our common stock or common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change of control or other corporate action. Upon the closing of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Registration Rights

We are party to an investors' rights agreement that provides that holders of our preferred stock and certain holders of our common stock, including certain holders of 5% of our capital stock and entities affiliated with certain of our directors, have certain registration rights, as set forth below. The registration of shares of our common stock pursuant to the exercise of registration rights described below would enable the holders to sell these shares without restriction under the Securities Act when the applicable registration statement is declared effective. We will pay the registration expenses, other than the underwriting discounts and commissions, of the shares registered pursuant to the demand, piggyback and Form S-3 registrations described below.

Generally, in an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions, to limit the number of shares such holders may include. The demand, piggyback and Form S-3 registration rights described below will expire upon the earlier of five years following the completion of this offering, or when all investors, considered with their affiliates, can sell all of their shares in a 90-day period under Rule 144.

Demand Registration Rights

The holders of an aggregate of 14,133,898 shares of common stock outstanding as of March 31, 2014, including 12,298,515 shares issuable upon conversion of outstanding preferred stock, giving effect to the company conversion as if it occurred on such date, will be entitled to certain demand registration rights. At any time beginning after the earlier of the fifth anniversary of the date of the agreement or six months following the date of this prospectus, the holders of at least 35% of these shares may, on not more than two occasions, request that we register all or a portion of their shares, subject to certain specified exceptions. Such request for registration must cover such number of shares such that the anticipated aggregate offering price would equal or exceed $30.0 million.

Piggyback Registration Rights

In connection with this offering, the holders of an aggregate of 14,133,898 shares of common stock outstanding as of March 31, 2014, including 12,298,515 shares issuable upon conversion of outstanding preferred stock, giving effect to the company conversion as if it occurred on such date, were entitled to, and the necessary percentage of holders waived, their rights to notice of this offering and to include their shares of registrable securities in this offering. In the event that we propose to register any of our securities under the Securities Act in another offering, either for our own account or for the account of other security holders, the holders of these shares will be entitled to certain "piggyback" registration rights allowing them to include their shares in such registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, including a registration statement on Form S-3 as discussed below, other than with respect to a demand registration or a registration statement on Forms S-4 or S-8 or related to stock issued upon conversion of debt securities, the holders of these shares are entitled to

notice of the registration and have the right, subject to limitations that the underwriters may impose on the number of shares included in the registration, to include their shares in the registration.

Form S-3 Registration Rights

The holders of an aggregate of 14,133,898 shares of common stock outstanding as of March 31, 2014, including 12,298,515 shares issuable upon conversion of outstanding preferred stock, giving effect to the company conversion as if it occurred on such date, will be entitled to certain Form S-3 registration rights. Any holder or holder of at least 25% of these shares can make a request that we register their shares on Form S-3 if we are qualified to file a registration statement on Form S-3, subject to certain specified exceptions. Such request for registration on Form S-3 must cover securities the aggregate offering price of which, before payment of the underwriting discounts and commissions, equals or exceeds $5.0 million. We will not be required to effect more than two registrations on Form S-3 within any 12-month period.

Anti-Takeover Provisions

Certificate of Incorporation and Bylaws to be in Effect upon the Closing of this Offering

Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the outstanding shares of common stock outstanding will be able to elect all of our directors. Our amended and restated certificate of incorporation and amended and restated bylaws to be effective upon the closing of this offering will provide that all stockholder actions must be effected at a duly called meeting of stockholders and not by written consent. A special meeting of stockholders may be called by holders of a majority of our common stock and common stock, voting together as a single class, or by the majority of our whole board of directors, or our chief executive officer.

As described above in “Management—Board Composition,” in accordance with our amended and restated certificate of incorporation to be filed in connection with this offering, immediately after this offering, our board of directors will be divided into three classes with staggered three-year terms.

The foregoing provisions will make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Since our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage certain types of transactions that may involve an actual or threatened acquisition of us. These provisions are also designed to reduce our vulnerability to an unsolicited acquisition proposal and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of deterring hostile takeovers or delaying changes in our control or management. As a consequence, these provisions also may inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts.

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a

period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon closing of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned by (i) persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines business combination to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loss, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an “interested stockholder” as an entity or person who, together with the person’s affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Choice of Forum

Our amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware will be the exclusive forum for any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or our bylaws; or any action asserting a claim against us that is governed by the internal affairs doctrine.

Limitations of Liability and Indemnification

See “Executive Compensation—Limitation on Liability and Indemnification Matters.”

Listing

We intend to apply to have our common stock approved for listing on The Nasdaq Global Market under the symbol “ATRA.”

Transfer Agent and Registrar

Upon the closing of this offering, the transfer agent and registrar for our common stock will be Computershare Trust Company, N.A. The transfer agent and registrar’s address is 250 Royall Street, Canton, Massachusetts 02021.

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our capital stock. Future sales of our common stock in the public market, or the availability of such shares for sale in the public market, could adversely affect market prices prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nevertheless, sales of our common stock in the public market after such restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price at such time and our ability to raise equity capital in the future.

Based on the number of shares outstanding as of March 31, 2014, upon the closing of this offering, 19,403,128 shares of common stock will be outstanding, assuming no exercise of the underwriters' option to purchase additional shares of common stock, no exercise of outstanding options and no issuance of shares upon settlement of RSUs. Of the outstanding shares, all of the shares sold in this offering will be freely tradable, except that any shares held by our affiliates, as that term is defined in Rule 144 under the Securities Act, may only be sold in compliance with the limitations described below.

The remaining shares of our common stock outstanding after this offering are restricted securities as such term is defined in Rule 144 under the Securities Act and are subject to lock-up agreements with us as described below. Following the expiration of the lock-up period, restricted securities may be sold in the public market only if registered or if they qualify for an exemption from registration under Rule 144 or 701 promulgated under the Securities Act, described in greater detail below.

Rule 144

In general, a person who has beneficially owned restricted shares of our common stock for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale and (ii) we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Persons who have beneficially owned restricted shares of our common stock for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares of our common stock outstanding after this offering, which will equal 194,031 shares assuming no exercise of the underwriters' option to purchase additional shares of common stock; or
- the average weekly trading volume of our common stock on The Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale;
- provided, in each case, that we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144.

Rule 701

Rule 701 under the Securities Act, as in effect on the date of this prospectus, permits re-sales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers, directors or consultants who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the

date of this prospectus before selling their shares. However, substantially all Rule 701 shares are subject to lock-up agreements as described below and under “Underwriting” and will become eligible for sale at the expiration of those agreements.

Lock-Up Agreements

We, our directors and executive officers, and substantially all of our stockholders and RSU holders have agreed with the underwriters that for a period of 180 days following the date of this prospectus, subject to certain exceptions, we and they will not, directly or indirectly, offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose of or hedge any of our shares of common stock, any options or warrants to purchase shares of our common stock, or any securities convertible into, or exchangeable for or that represent the right to receive shares of our common stock. Goldman, Sachs & Co. and Citigroup Global Capital Markets Inc. may, in their sole discretion, at any time, release all or any portion of the shares from the restrictions in such agreement.

Employees can only sell vested shares. Employees who do not hold vested shares, including shares subject to options, upon expiration of these selling restrictions will not be able to sell shares until they vest.

Registration Rights

On the date beginning 181 days after the date of this prospectus, the holders of approximately 14,133,898 shares of our common stock, or their transferees, will be entitled to certain rights with respect to the registration of those shares under the Securities Act. For a description of these registration rights, see “Description of Capital Stock—Registration Rights.” If these shares are registered, they will be freely tradable without restriction under the Securities Act.

Equity Incentive Plans

As soon as practicable after the closing of this offering, we intend to file a Form S-8 registration statement under the Securities Act to register shares of our common stock issued or reserved for issuance under our equity compensation plans and agreements. This registration statement will become effective immediately upon filing, and shares covered by this registration statement will thereupon be eligible for sale in the public markets, subject to vesting restrictions, the lock-up agreements described above and Rule 144 limitations applicable to affiliates. For a more complete discussion of our equity compensation plans, see “Executive Compensation—Employee Benefit Plans.”

MATERIAL US FEDERAL INCOME AND ESTATE TAX CONSEQUENCES TO NON-US HOLDERS OF OUR COMMON STOCK

The following is a summary of the material US federal income and estate tax consequences to non-US holders (as defined below) of the acquisition, ownership and disposition of our common stock issued pursuant to this offering. This discussion is not a complete analysis of all potential US federal income tax consequences relating thereto, does not address the potential application of the Medicare contribution tax and does not address any gift tax consequences or any tax consequences arising under any state, local or foreign tax laws, or any other US federal tax laws. This discussion is based on the Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated thereunder, judicial decisions and published rulings and administrative pronouncements of the Internal Revenue Service, or IRS, all as in effect as of the date of this prospectus. These authorities may change, possibly retroactively, resulting in US federal income tax consequences different from those discussed below.

This discussion is limited to non-US holders who purchase our common stock issued pursuant to this offering and who hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all of the US federal income tax consequences that may be relevant to a particular holder in light of such holder's particular circumstances. This discussion also does not consider any specific facts or circumstances that may be relevant to holders subject to special rules under the US federal income tax laws, including, without limitation, certain former citizens or long-term residents of the United States, partnerships or other pass-through entities, "controlled foreign corporations," "passive foreign investment companies," corporations that accumulate earnings to avoid US federal income tax, banks, financial institutions, investment funds, insurance companies, brokers, dealers or traders in securities, tax-exempt organizations, tax-qualified retirement plans, persons subject to the alternative minimum tax, persons that own, or have owned, actually or constructively, more than 5% of our common stock and persons holding our common stock as part of a hedging or conversion transaction or straddle, or a constructive sale, or other risk reduction strategy.

If an entity or arrangement that is classified as a partnership for US federal income tax purposes holds our common stock, the US federal income tax treatment of a partner will generally depend on the status of the partner and the activities of the partnership. Partnerships holding our common stock and the partners in such partnerships are urged to consult their tax advisors as to particular US federal income tax consequences to them of holding and disposing of our common stock.

PROSPECTIVE INVESTORS SHOULD CONSULT THEIR TAX ADVISORS REGARDING THE PARTICULAR US FEDERAL INCOME TAX CONSEQUENCES TO THEM OF ACQUIRING, OWNING AND DISPOSING OF OUR COMMON STOCK, AS WELL AS ANY TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL OR FOREIGN TAX LAWS AND ANY OTHER US FEDERAL TAX LAWS.

Definition of Non-US Holder

For purposes of this discussion, a non-US holder is any beneficial owner of our common stock that is not a "US person" or a partnership (including any entity or arrangement treated as a partnership) for US federal income tax purposes. A US person is any of the following:

- an individual citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for US federal income tax purposes) created or organized under the laws of the United States, any state thereof or the District of Columbia;

- an estate, the income of which is subject to US federal income tax regardless of its source; or
- a trust (1) whose administration is subject to the primary supervision of a US court and which has one or more US persons who have the authority to control all substantial decisions of the trust, or (2) that has a valid election in effect under applicable Treasury Regulations to be treated as a US person.

Distributions on our Common Stock

If we make cash or other property distributions on our common stock, such distributions will constitute dividends for US federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under US federal income tax principles. Amounts not treated as dividends for US federal income tax purposes will constitute a return of capital and will first be applied against and reduce a holder's tax basis in our common stock, but not below zero. Any excess will be treated as gain realized on the sale or other disposition of our common stock and will be treated as described under the section of this prospectus titled "—Gain on Disposition of our Common Stock" below.

Dividends (out of earnings and profits) paid to a non-US holder of our common stock generally will be subject to US federal withholding tax at a rate of 30% of the gross amount of the dividends, or such lower rate specified by an applicable income tax treaty. To receive the benefit of a reduced treaty rate, a non-US holder must furnish to us or our paying agent a valid IRS Form W-8BEN (or applicable successor form) including a US taxpayer identification number and certifying such holder's qualification for the reduced rate. This certification must be provided to us or our paying agent prior to the payment of dividends and must be updated periodically. If the non-US holder holds the stock through a financial institution or other agent acting on the non-US holder's behalf, the non-US holder will be required to provide appropriate documentation to the agent, which then will be required to provide certification to us or our paying agent, either directly or through other intermediaries.

Non-US holders that do not timely provide the required certification, but that qualify for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If a non-US holder holds our common stock in connection with the conduct of a trade or business in the United States, and dividends paid on our common stock are effectively connected with such holder's US trade or business (and are attributable to such holder's permanent establishment in the United States if required by an applicable tax treaty), the non-US holder will be exempt from US federal withholding tax. To claim the exemption, the non-US holder must generally furnish a properly executed IRS Form W-8ECI (or applicable successor form).

Any dividends paid on our common stock that are effectively connected with a non-US holder's US trade or business (and if required by an applicable income tax treaty, are attributable to a permanent establishment maintained by the non-US holder in the United States) generally will be subject to US federal income tax on a net income basis at the regular graduated US federal income tax rates in the same manner as if such holder were a resident of the United States. A non-US holder that is a foreign corporation also may be subject to an additional branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of its effectively connected earnings and profits for the taxable year, as adjusted for certain items. Non-US holders should consult their tax advisors regarding any applicable income tax treaties that may provide for different rules.

Gain on Disposition of our Common Stock

Subject to the discussion below regarding backup withholding and FATCA, a non-US holder generally will not be subject to US federal income tax on any gain realized upon the sale or other disposition of our common stock, unless:

- the gain is effectively connected with the non-US holder's conduct of a trade or business in the United States, and if required by an applicable income tax treaty, is attributable to a permanent establishment maintained by the non-US holder in the United States;
- the non-US holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition, and certain other requirements are met; or
- our common stock constitutes a "United States real property interest" by reason of our status as a United States real property holding corporation, or USRPHC, for US federal income tax purposes at any time within the shorter of the five-year period preceding the disposition or the non-US holder's holding period for our common stock, and our common stock is not regularly traded on an established securities market during the calendar year in which the sale or other disposition occurs.

The determination of whether we are a USRPHC depends on the fair market value of our US real property interests relative to the fair market value of our other trade or business assets and our foreign real property interests. We believe we are not currently and do not anticipate becoming a USRPHC for US federal income tax purposes.

Gain described in the first bullet point above generally will be subject to US federal income tax on a net income basis at the regular graduated US federal income tax rates in the same manner as if such holder were a resident of the United States. A non-US holder that is a foreign corporation also may be subject to an additional branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of its effectively connected earnings and profits for the taxable year, as adjusted for certain items. Non-US holders should consult their tax advisors regarding any applicable income tax treaties that may provide for different rules.

Gain described in the second bullet point above will be subject to US federal income tax at a flat 30% rate (or such lower rate specified by an applicable income tax treaty), but may be offset by certain US-source capital losses (even though the individual is not considered a resident of the United States), provided that the non-US holder has timely filed US federal income tax returns with respect to such losses.

Information Reporting and Backup Withholding

We must report annually to the IRS and to each non-US holder the amount of dividends on our common stock paid to such holder and the amount of any tax withheld with respect to those dividends. These information reporting requirements apply even if no withholding was required because the dividends were effectively connected with the holder's conduct of a US trade or business, or withholding was reduced or eliminated by an applicable income tax treaty. This information also may be made available under a specific treaty or agreement with the tax authorities in the country in which the non-US holder resides or is established. Backup withholding, currently at a 28% rate, generally will not apply to payments to a non-US holder of dividends on or the gross proceeds of a disposition of our common stock provided the non-US holder furnishes the required certification as to its non-US status, such as by providing a valid IRS Form W-8BEN or IRS Form W-8ECI, or certain other requirements are met. Notwithstanding the foregoing, backup withholding may apply if the payor has actual knowledge, or reason to know, that the holder is a US person who is not an exempt recipient.

Backup withholding is not an additional tax. If any amount is withheld under the backup withholding rules, the non-US holder should consult with a US tax advisor regarding the possibility of and procedure for obtaining a refund or a credit against the non-US holder's US federal income tax liability, if any.

Legislation Affecting Taxation of our Common Stock held by or through Foreign Entities

Sections 1471 through 1474 of the Code (commonly referred to as FATCA) will impose a US federal withholding tax of 30% on certain payments made to a "foreign financial institution" (as specially defined under these rules) unless such institution enters into an agreement with the US government to withhold on certain payments and to collect and provide to the US tax authorities substantial information regarding US account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with US owners) or an exemption applies. FATCA also generally will impose a US federal withholding tax of 30% on certain payments made to a non-financial foreign entity unless such entity provides the withholding agent a certification identifying the direct and indirect US owners of the entity or an exemption applies. An intergovernmental agreement between the United States and an applicable foreign country may modify these requirements. Under certain circumstances, a non-US holder might be eligible for refunds or credits of such taxes. Under certain transition rules, these withholding taxes will be imposed on dividends paid on our common stock after June 30, 2014, and on gross proceeds from sales or other dispositions of our common stock after December 31, 2016.

Prospective investors are encouraged to consult with their own tax advisors regarding the possible implications of this legislation on their investment in our common stock.

Estate Tax

Individual non-US holders and entities whose property is potentially includible in such an individual's gross estate for US federal estate tax purposes (for example, a trust funded by such an individual and with respect to which the individual has retained certain interests or powers), should note that, absent an applicable treaty benefit, our common stock generally will be treated as US situs property subject to US federal estate tax.

UNDERWRITING

We and the underwriters named below have entered into an underwriting agreement with respect to the shares being offered. Subject to certain conditions, each underwriter has severally agreed to purchase the number of shares indicated in the following table. Goldman, Sachs & Co. and Citigroup Global Markets Inc. are the representatives of the underwriters.

Underwriters	Number of Shares
Goldman, Sachs & Co.	
Citigroup Global Markets Inc.	
Jefferies LLC	
Total	5,000,000

The underwriters are committed to take and pay for all of the shares being offered, if any are taken, other than the shares covered by the option described below unless and until this option is exercised.

The underwriters have an option to buy up to an additional 750,000 shares to cover sales by the underwriters of a greater number of shares than the total number set forth in the table above. They may exercise that option for 30 days. If any shares are purchased pursuant to this option, the underwriters will severally purchase shares in approximately the same proportion as set forth in the table above.

The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase 750,000 additional shares.

Paid by Us	No Exercise	Full Exercise
Per Share	$	$
Total	$	$

Shares sold by the underwriters to the public will initially be offered at the initial public offering price set forth on the cover of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount of up to $ per share from the initial public offering price. After the initial offering of the shares, the representatives may change the offering price and the other selling terms. The offering of the shares by the underwriters is subject to receipt and acceptance and subject to the underwriters' right to reject any order in whole or in part.

We and our officers, directors, and holders of substantially all of our capital stock have agreed with the underwriters, subject to certain exceptions, not to dispose of or hedge any of their common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus, except with the prior written consent of the representatives. See "Shares Eligible for Future Sale" for a discussion of certain transfer restrictions.

Prior to the offering, there has been no public market for the shares. The initial public offering price has been negotiated among us and the representatives. Among the factors considered in determining the initial public offering price of the shares, in addition to prevailing market conditions, were our historical performance, estimates of our business potential and earnings prospects, an assessment of our management and the consideration of the above factors in relation to market valuation of companies in related businesses.

We intend to apply for the listing of our common stock on The Nasdaq Global Market under the symbol “ATRA.”

In connection with the offering, the underwriters may purchase and sell shares of our common stock in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering, and a short position represents the amount of such sales that have not been covered by subsequent purchases. A “covered short position” is a short position that is not greater than the amount of additional shares for which the underwriters’ option described above may be exercised. The underwriters may cover any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to cover the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase additional shares pursuant to the option described above. “Naked” short sales are any short sales that create a short position greater than the amount of additional shares for which the option described above may be exercised. The underwriters must cover any such naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of our common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Purchases to cover a short position and stabilizing transactions, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or retarding a decline in the market price of our stock, and together with the imposition of the penalty bid, may stabilize, maintain or otherwise affect the market price of our common stock. As a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. The underwriters are not required to engage in these activities and may end any of these activities at any time. These transactions may be effected on The Nasdaq Global Market, in the over-the-counter market or otherwise.

The underwriters do not expect sales to discretionary accounts to exceed five percent of the total number of shares offered.

We estimate that our share of the total expenses of the offering, excluding underwriting discounts and commissions, will be approximately $2.7 million, including up to $30,000 of expenses that we have agreed to reimburse the underwriters for costs relating to clearance of this offering with the Financial Industry Regulatory Authority, Inc.

We have agreed to indemnify the several underwriters against certain liabilities, including liabilities under the Securities Act.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Certain of the underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to us and to persons and entities with relationships with us, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to our assets, securities and/or instruments (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with us. The underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State), each underwriter has represented and agreed that with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State (the Relevant Implementation Date) it has not made and will not make an offer of shares to the public in that Relevant Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Directive, except that it may, with effect from and including the Relevant Implementation Date, make an offer of shares to the public in that Relevant Member State at any time:

(a) to legal entities which are authorised or regulated to operate in the financial markets or, if not so authorised or regulated, whose corporate purpose is solely to invest in securities;

(b) to any legal entity which has two or more of (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than €43,000,000 and (3) an annual net turnover of more than€50,000,000, as shown in its last annual or consolidated accounts;

(c) to fewer than 100 natural or legal persons (other than qualified investors as defined in the Prospectus Directive) subject to obtaining the prior consent of the representatives for any such offer; or

(d) in any other circumstances which do not require the publication by the Issuer of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an “offer of shares to the public” in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe for the shares, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State and the expression Prospectus Directive means Directive 2003/71/EC and includes any relevant implementing measure in each Relevant Member State.

United Kingdom

Each underwriter has represented and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity

(within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of the shares in circumstances in which Section 21(1) of the FSMA does not apply to the Issuer; and

(b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares in, from or otherwise involving the United Kingdom.

France

Neither this prospectus nor any other offering material relating to the shares described in this prospectus has been submitted to the clearance procedures of the *Autorité des Marchés Financiers* or of the competent authority of another member state of the European Economic Area and notified to the *Autorité des Marchés Financiers*. The shares have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France. Neither this prospectus nor any other offering material relating to the shares has been or will be:

- released, issued, distributed or caused to be released, issued or distributed to the public in France; or
- used in connection with any offer for subscription or sale of the shares to the public in France.

Such offers, sales and distributions will be made in France only:

- to qualified investors (*investisseurs qualifiés*) and/or to a restricted circle of investors (*cercle restreint d'investisseurs*), in each case investing for their own account, all as defined in, and in accordance with articles L.411-2, D.411-1, D.411-2, D.734-1, D.744-1, D.754-1 and D.764-1 of the French *Code monétaire et financier*;
- to investment services providers authorized to engage in portfolio management on behalf of third parties; or
- in a transaction that, in accordance with article L.411-2-II-1°-or-2°-or 3° of the French *Code monétaire et financier* and article 211-2 of the General Regulations (*Règlement Général*) of the *Autorité des Marchés Financiers*, does not constitute a public offer (*appel public à l'épargne*).

The shares may be resold directly or indirectly, only in compliance with articles L.411-1, L.411-2, L.412-1 and L.621-8 through L.621-8-3 of the French *Code monétaire et financier*.

Australia

No prospectus or other disclosure document (as defined in the Corporations Act 2001 (Cth) of Australia ("Corporations Act")) in relation to the common stock has been or will be lodged with the Australian Securities & Investments Commission ("ASIC"). This document has not been lodged with ASIC and is only directed to certain categories of exempt persons. Accordingly, if you receive this document in Australia:

(a) you confirm and warrant that you are either:

(i) a "sophisticated investor" under section 708(8)(a) or (b) of the Corporations Act;

(ii) a "sophisticated investor" under section 708(8)(c) or (d) of the Corporations Act and that you have provided an accountant's certificate to us which complies with the requirements of section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations before the offer has been made;

(iii) a person associated with the company under section 708(12) of the Corporations Act; or

(iv) a "professional investor" within the meaning of section 708(11)(a) or (b) of the Corporations Act, and to the extent that you are unable to confirm or warrant that you are an exempt sophisticated investor, associated person or professional investor under the Corporations Act any offer made to you under this document is void and incapable of acceptance; and

(b) you warrant and agree that you will not offer any of the common stock for resale in Australia within 12 months of that common stock being issued unless any such resale offer is exempt from the requirement to issue a disclosure document under section 708 of the Corporations Act.

Hong Kong

The shares may not be offered or sold by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA"), (ii) to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 by a relevant person which is: (a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that trust shall not be transferable for 6 months after that corporation or that trust has acquired the shares under Section 275 except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA; (2) where no consideration is given for the transfer; or (3) by operation of law.

Japan

The securities have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (the Financial Instruments and Exchange Law) and each underwriter has agreed that it will not offer or sell any securities, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law and any other applicable laws, regulations and ministerial guidelines of Japan.

LEGAL MATTERS

Cooley LLP of San Francisco, California, will pass upon the validity of the shares of common stock offered hereby. The underwriters are being represented by Davis Polk & Wardwell LLP of Menlo Park, California, in connection with the offering.

EXPERTS

The combined financial statements as of December 31, 2013, and 2012 and for the year ended December 31, 2013 and for the periods from August 22, 2012 (inception) to December 31, 2012 and from August 22, 2012 (inception) to December 31, 2013 included in this prospectus have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report appearing herein (which report expresses an unqualified opinion on the combined financial statements and includes an explanatory paragraph referring to the Company (as defined therein) being in the development stage as of December 31, 2013). Such combined financial statements have been so included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to this offering of our common stock. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some items of which are contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our common stock, we refer you to the registration statement, including the exhibits and the financial statements and notes filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The exhibits to the registration statement should be referenced for the complete contents of these contracts and documents. A copy of the registration statement and the exhibits filed therewith may be inspected without charge at the public reference room of the SEC, located at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may obtain information on the operation of the public reference rooms by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

As a result of this offering, we will become subject to the information and reporting requirements of the Exchange Act and, in accordance with this law, will file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information will be available for inspection and copying at the SEC's public reference facilities and the website of the SEC referred to above. We also maintain a website at http://www.atarabio.com. After the closing of this offering, you may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not part of this prospectus.

ATARA BIOTHERAPEUTICS, INC.
(A DEVELOPMENT STAGE COMPANY)
INDEX TO COMBINED AND CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Atara Biotherapeutics, Inc.
Brisbane, California

We have audited the accompanying combined balance sheets of Atara Biotherapeutics, Inc., Nina Biotherapeutics, Inc., Pinta Biotherapeutics, Inc. and Santa Maria Biotherapeutics, Inc. (the development stage companies) (collectively, the "Company") as of December 31, 2013 and 2012, and the related combined statements of operations and comprehensive loss, convertible preferred stock and stockholders' deficit, and cash flows for the year ended December 31, 2013, the period from August 22, 2012 (inception) to December 31, 2012, and the period from August 22, 2012 (inception) to December 31, 2013. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of their internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such financial statements present fairly, in all material respects, the combined financial position of the Company at December 31, 2013 and 2012, and the combined results of its operations and its cash flows for the year ended December 31, 2013, the period from August 22, 2012 (inception) to December 31, 2012, and the period from August 22, 2012 (inception) to December 31, 2013, in conformity with accounting principles generally accepted in the United States of America.

The Company is in the development stage as of December 31, 2013. As discussed in Note 2 to the combined financial statements, successful completion of the Company's development programs and, ultimately, the attainment of profitable operations is dependent upon future events, including obtaining additional financing for the successful development, approval and commercialization of product candidates and the achievement of sufficient revenues to support the Company's cost structure.

/s/ DELOITTE & TOUCHE LLP

San Jose, CA
April 9, 2014 (July 10, 2014 as to the effect of the reverse stock split described in the first paragraph of Note 2)

ATARA BIOTHERAPEUTICS, INC.
(A DEVELOPMENT STAGE COMPANY)
Combined and Consolidated Balance Sheets

	December 31, 2012	December 31, 2013	March 31, 2014	Pro forma March 31, 2014 (Note 2)
			(unaudited)	
	(In thousands, except share and per share information)			
Assets				
Current assets				
Cash and cash equivalents	$ 4,207	$ 51,615	$ 39,754	$ 40,053
Short-term available-for-sale investments	—	—	22,277	22,277
Prepaid expenses and other current assets	35	193	260	260
Total current assets	4,242	51,808	62,291	62,590
Property and equipment, net	9	8	8	8
Other assets	39	12	567	567
Total assets	$ 4,290	$ 51,828	$ 62,866	$ 63,165
Liabilities, convertible preferred stock and stockholders' deficit				
Current liabilities:				
Accounts payable	$ 121	$ 606	$ 1,402	$ 1,402
Accrued compensation	51	331	199	199
Series A-1 convertible preferred shares issuable to Amgen	1,003	—	—	—
Income tax payable	7	155	63	63
Other accrued liabilities	120	432	1,124	1,124
Total current liabilities	1,302	1,524	2,788	2,788
Other long-term liabilities	4	230	210	205
Total liabilities	1,306	1,754	2,998	2,993
Commitments and contingencies (Note 5)				
Series A convertible preferred stock—$0.0001 par value, liquidation preference of $20,088	4,946	19,909	19,909	—
Series A-1 convertible preferred stock—$0.0001 par value, liquidation preference of $3,000	1,765	2,768	2,768	—
Series B convertible preferred stock—$0.0001 par value, liquidation preference of $52,000	—	38,414	51,895	—
Stockholders' deficit				
Common stock—$0.0001 par value, 7,461,537, 12,003,891 and 1,302,835 shares issued and outstanding as of December 31, 2012 and 2013 and March 31, 2014 (unaudited), respectively	1	1	—	1
Additional paid-in capital	382	2,200	5,538	82,907
Notes receivable from stockholder	—	(335)	(299)	—
Accumulated other comprehensive loss	—	—	(11)	(11)
Accumulated deficit	(4,110)	(12,883)	(19,932)	(22,725)
Total stockholders' deficit	(3,727)	(11,017)	(14,704)	60,172
Total liabilities, convertible preferred stock and stockholders' deficit	$ 4,290	$ 51,828	$ 62,866	$ 63,165

See accompanying notes.

ATARA BIOTHERAPEUTICS, INC.
(A DEVELOPMENT STAGE COMPANY)
Combined and Consolidated Statements of Operations and Comprehensive Loss

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013	Period from August 22, 2012 (Inception) to December 31, 2013	Three months ended March 31, 2013	Three months ended March 31, 2014	Period from August 22, 2012 (Inception) to March 31, 2014
				(unaudited)		(unaudited)
	(In thousands, except share and per share information)					
Expenses:						
Research and development	$ 241	$ 4,306	$ 4,547	$ 354	$ 2,981	$ 7,528
Research and development costs paid to Amgen	—	553	553	—	—	553
In-process research and development acquired from Amgen	3,018	—	3,018	—	—	3,018
General and administrative	834	3,756	4,590	932	4,096	8,686
Total expense	4,093	8,615	12,708	1,286	7,077	19,785
Loss from operations	(4,093)	(8,615)	(12,708)	(1,286)	(7,077)	(19,785)
Interest income	—	12	12	2	6	18
Loss before provision for income taxes	(4,093)	(8,603)	(12,696)	(1,284)	(7,071)	(19,767)
Provision (benefit) for income taxes	17	170	187	14	(22)	165
Net loss incurred in the development stage	$ (4,110)	$ (8,773)	$ (12,883)	$ (1,298)	$ (7,049)	$ (19,932)
Other comprehensive loss, net of tax:						
Unrealized losses on investments	—	—	—	—	(11)	(11)
Other comprehensive loss	—	—	—	—	(11)	(11)
Comprehensive loss incurred in the development stage	$ (4,110)	$ (8,773)	$ (12,883)	$ (1,298)	$ (7,060)	$ (19,943)
Net loss per common share:						
Basic and diluted net loss per common share	$ (5.60)	$ (9.08)		$ (1.56)	$ (5.58)	
Weighted-average common shares outstanding used to calculate basic and diluted net loss per common share	733,294	965,825		830,073	1,263,316	
Proforma net loss per common share:						
Basic and diluted proforma net loss per common share		$ (1.28)			$ (0.52)	
Weighted average common shares outstanding used to compute pro forma net loss per common share		6,870,743			13,528,873	

See accompanying notes.

ATARA BIOTHERAPEUTICS, INC.
(A DEVELOPMENT STAGE COMPANY)
Combined and Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit
(In thousands)

	Series A Convertible Preferred Stock		Series A-1 Convertible Preferred Stock		Series B Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Notes Receivable From Stockholder	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount					
Balance at inception (August 22, 2012)	—	$ —	—	$ —	—	$ —	—	$ —	$ —	$ —	$ —	$ —	$ —
Issuance of common stock for cash	—	—	—	—	—	—	7,231	1	90	—	—	—	91
Issuance of Series A preferred stock for cash, net of offering costs of $54	11,538	4,946	—	—	—	—	—	—	—	—	—	—	—
Issuance of Series A-1 preferred stock for license fee to Amgen	—	—	3,532	1,765	—	—	—	—	—	—	—	—	—
Issuance of common stock upon vesting of stock awards	—	—	—	—	—	—	231	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	—	—	292	—	—	—	292
Net loss incurred in the development stage	—	—	—	—	—	—	—	—	—	—	—	(4,110)	(4,110)
Balance at December 31, 2012	11,538	4,946	3,532	1,765	—	—	7,462	1	382	—	—	(4,110)	(3,727)
Issuance of common stock for cash, net of offering costs of $1	—	—	—	—	—	—	615	—	—	—	—	—	—
Issuance of Series A preferred stock for cash, net of offering costs of $124	34,818	14,963	—	—	—	—	—	—	—	—	—	—	—
Issuance of Series A-1 preferred stock for license fee to Amgen	—	—	2,006	1,003	—	—	—	—	—	—	—	—	—
Issuance of Series B preferred stock for cash, net of offering costs of $86	—	—	—	—	43,529	38,414	—	—	—	—	—	—	—
Notes receivable from stockholder	—	—	—	—	—	—	—	—	—	(331)	—	—	(331)

ATARA BIOTHERAPEUTICS, INC.
(A DEVELOPMENT STAGE COMPANY)
Combined and Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit
(In thousands)

	Series A Convertible Preferred Stock		Series A-1 Convertible Preferred Stock		Series B Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Notes Receivable From Stockholder	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount					
Interest income accrued on notes receivable from stockholder	—	—	—	—	—	—	—	—	—	(4)	—	—	(4)
Issuance of common stock upon vesting of stock awards	—	—	—	—	—	—	3,927	—	105	—	—	—	105
Stock-based compensation expense	—	—	—	—	—	—	—	—	1,713	—	—	—	1,713
Net loss incurred in the development stage	—	—	—	—	—	—	—	—	—	—	—	(8,773)	(8,773)
Balance at December 31, 2013	46,356	19,909	5,538	2,768	43,529	38,414	12,004	1	2,200	(335)	—	(12,883)	(11,017)
Issuance of Series B preferred stock, net of offering costs of $19 (unaudited)	—	—	—	—	15,263	13,481	—	—	—	—	—	—	—
Repayment of notes receivable from stockholder (unaudited)	—	—	—	—	—	—	—	—	—	37	—	—	37
Interest income accrued on notes receivable from stockholder (unaudited)	—	—	—	—	—	—	—	—	—	(1)	—	—	(1)
Issuance of common stock upon vesting of stock awards (unaudited)	—	—	—	—	—	—	645	—	20	—	—	—	20
Recapitalization (Note 2) (unaudited)	(41,205)	—	(4,923)	—	(52,260)	—	(11,346)	(1)	1	—	—	—	—
Stock-based compensation expense (unaudited)	—	—	—	—	—	—	—	—	3,317	—	—	—	3,317
Unrealized losses on available-for-sale investments (unaudited)	—	—	—	—	—	—	—	—	—	—	(11)	—	(11)
Net loss incurred in the development stage (unaudited)	—	—	—	—	—	—	—	—	—	—	—	(7,049)	(7,049)
Balance at March 31, 2014 (unaudited)	5,151	$19,909	615	$ 2,768	6,532	$51,895	1,303	$ —	$ 5,538	$ (299)	$ (11)	$ (19,932)	$ (14,704)

See accompanying notes.

ATARA BIOTHERAPEUTICS, INC.
(A DEVELOPMENT STAGE COMPANY)
Combined and Consolidated Statements of Cash Flows

	Period from August 22, 2012 (Inception) to December 31, 2012	Year ended December 31, 2013	Period from August 22, 2012 (Inception) to December 31, 2013	Three months ended March 31, 2013	Three months ended March 31, 2014	Period from August 22, 2012 (Inception) to March 31, 2014
			(In thousands)	(unaudited)		(unaudited)
Operating activities						
Net loss incurred in the development stage	$ (4,110)	$ (8,773)	$ (12,883)	$ (1,298)	$ (7,049)	$ (19,932)
Adjustments to reconcile net loss incurred in the development stage to net cash used in operating activities:						
In-process research and development acquired from Amgen	2,768	—	2,768	—	—	2,768
Depreciation expense	—	4	4	1	1	5
Investment premium amortization, net	—	—	—	—	16	16
Stock-based compensation expense	292	1,713	2,005	348	3,317	5,322
Interest accrued on notes receivable from stockholder	—	(4)	(4)	—	(1)	(5)
Changes in operating assets and liabilities:						
Other assets	(39)	27	(12)	(2)	1	(11)
Prepaid expenses and other current assets	(35)	(158)	(193)	(161)	44	(149)
Accounts payable	121	485	606	247	421	1,027
Income tax payable	7	148	155	12	(92)	63
Other accrued liabilities	120	312	432	103	557	989
Accrued compensation	51	280	331	21	(132)	199
Net cash used in operating activities	(825)	(5,966)	(6,791)	(729)	(2,917)	(9,708)
Investing activities						
Purchase of short-term investments	—	—	—	—	(22,414)	(22,414)
Purchase of property and equipment	(9)	(3)	(12)	—	(1)	(13)
Net cash used in investing activities	(9)	(3)	(12)	—	(22,415)	(22,427)
Financing activities						
Proceeds from sale of common stock	91	—	91	—	—	91
Repayment of notes receivable from stockholder	—	—	—	—	37	37
Proceeds from sale of unvested restricted stock	4	—	4	—	—	4
Proceeds from sale of convertible preferred stock	5,000	53,587	58,587	15,088	13,500	72,087
Offering costs incurred in connection with sale of convertible preferred stock	(54)	(210)	(264)	(125)	(19)	(283)
Offering costs incurred in anticipation of initial public filing	—	—	—	—	(47)	(47)
Net cash provided by financing activities	5,041	53,377	58,418	14,963	13,471	71,889
Increase (decrease) in cash and cash equivalents	4,207	47,408	51,615	14,234	(11,861)	39,754
Cash and cash equivalents-beginning of period	—	4,207	—	4,207	51,615	—
Cash and cash equivalents-end of period	$ 4,207	$ 51,615	$ 51,615	$18,441	$ 39,754	$ 39,754
Non-cash financing activities						
Issuance of Series A-1 convertible preferred stock to Amgen in exchange for license	$ 1,765	$ 1,003	$ 2,768	$ 1,003	$ —	$ 2,768
Change in obligation to issue Series A-1 convertible preferred stock to Amgen	$ 1,003	$ (1,003)	$ —	$ (1,003)	$ —	$ —
Issuance of common stock upon vesting of stock awards	$ —	$ 105	$ 105	$ 1	$ 20	$ 125
Change in other long-term liabilities related to non-vested stock awards	$ —	$ 226	$ 226	$ 331	$ (20)	$ 206
Restricted stock issued to related party in exchange for notes receivable	$ —	$ 331	$ 331	$ 331	$ —	$ 331
Obligations incurred for offering costs in anticipation of initial public filing	—	—	$ —	$ —	$ 510	$ 510
Supplemental cash flow disclosure—Cash paid for taxes	$ 9	$ 22	$ 31	$ 2	$ 70	$ 101

See accompanying notes.

ATARA BIOTHERAPEUTICS, INC.
(A DEVELOPMENT STAGE COMPANY)
Notes to Combined and Consolidated Financial Statements

1. Organization and Description of Business

Atara Biotherapeutics, Inc. ("Atara"), Nina Biotherapeutics, Inc. ("Nina"), Santa Maria Biotherapeutics, Inc. ("Santa Maria") and Pinta Biotherapeutics, Inc. ("Pinta") (collectively, the "Company," "we" or "our") were incorporated in August 2012 in Delaware. We are a clinical-stage biopharmaceutical company developing novel therapeutics, with an initial focus on biologics for muscle wasting conditions and oncology. Atara was formed as a management company with the sole purpose of providing management, financial and administrative services for Nina, Pinta and Santa Maria.

Our product candidate portfolio was acquired through licensing arrangements with Amgen Inc. ("Amgen") in exchange for convertible preferred stock, milestone payments and commitments for future royalties. See Note 4. Our primary source of funding has been from the issuance of preferred stock. Through March 31, 2014, we have raised $71.8 million in cash from issuances of convertible preferred stock, net of issuance costs, which has been and will be used to fund preclinical studies and clinical trials related to the acquired product candidate portfolio. We have no revenue and have incurred losses since inception.

2. Summary of Significant Accounting Policies

Basis of Presentation and Recapitalization

All share and per-share amounts presented in the combined financial statements for the period from inception on August 22, 2012 through December 31, 2012 and for the year ended December 31, 2013 and in the combined and consolidated financial statements for the three months ended March 31, 2013 and 2014 and in the notes hereto have been revised to reflect a 1.3-to-1 reverse stock split which became effective July 9, 2014.

The accompanying combined and consolidated financial statements have been prepared in accordance with US generally accepted accounting principles and include all adjustments necessary for the presentation of our combined and consolidated financial position, results of operations and cash flows as of the dates and for the periods presented. For the period from inception on August 22, 2012 through March 31, 2014, we were development stage enterprises, as we had not yet begun to generate revenues. The statements of operations and comprehensive loss, convertible preferred stock and stockholders' deficit, and cash flows present our cumulative combined and consolidated financial information for the period from inception on August 22, 2012 through March 31, 2014.

Prior to March 31, 2014, the accompanying financial statements include the operations of Atara, Nina, Pinta and Santa Maria on a combined basis as the four individual companies were under common ownership and common management since inception. All intercompany transactions have been eliminated.

On March 31, 2014, our boards of directors approved and we implemented a recapitalization (the "Recapitalization") in which (a) all the outstanding shares of common stock of Atara were cancelled and forfeited by existing stockholders and (b) the stockholders of Nina, Pinta and Santa Maria exchanged their existing common and convertible preferred stock for newly-issued shares of Atara, with the same rights and privileges as the outstanding capital stock of Nina, Pinta and Santa Maria. The shares were exchanged on a collective nine-for-one basis. The Recapitalization lacked economic substance as the newly-issued shares have the same rights and privileges as the previously outstanding capital stock of Nina, Pinta and Santa Maria and there was no change in ownership percentages of the individual stockholders. As a result of the Recapitalization, Nina, Pinta and Santa

ATARA BIOTHERAPEUTICS, INC.
(A DEVELOPMENT STAGE COMPANY)
Notes to Combined and Consolidated Financial Statements

Maria became wholly owned subsidiaries of Atara effective March 31, 2014. The Recapitalization is considered a tax-free exchange for US federal income tax purposes.

Because the four individual companies were under common ownership and the Recapitalization lacked economic substance, we accounted for the Recapitalization as a combination of businesses under common control. The assets and liabilities of Nina, Pinta and Santa Maria were recorded by Atara at their historical carrying amounts on March 31, 2014 and beginning March 31, 2014, the financial statements of the Company are presented on a consolidated basis.

In connection with the Recapitalization, Atara assumed the separate equity incentive plans sponsored by Nina, Pinta and Santa Maria and all outstanding RSUs and restricted stock awards granted under such plans. At the time of settlement, each employee or consultant will receive one share of common stock of Atara for three shares in each of Nina, Pinta, and Santa Maria (collectively, a nine-for-one exchange). At the date of the Recapitalization, restricted stock units ("RSUs") and restricted stock awards issued by Nina, Pinta and Santa Maria to Atara employees became employee awards and the awards' grant dates were established as the Recapitalization date. No new grants will be made under these plans going forward and any new employee incentive grants will be made under a new 2014 Equity Incentive Plan.

Also at the time of the Recapitalization, the mandatory conversion price of the convertible preferred stock upon an initial public offering was reduced from three times the Series B convertible preferred stock price to 1.6 times the Series B convertible preferred stock price.

The following table summarizes the combined shares issued by Nina, Pinta and Santa Maria prior to and by Atara after the Recapitalization:

	Prior to Recapitalization March 31, 2014 (unaudited)	After Recapitalization March 31, 2014 (unaudited)
Series A convertible preferred stock	46,356,342	5,150,699
Series A-1 convertible preferred stock	5,538,462	615,384
Series B convertible preferred stock	58,791,996	6,532,432
	110,686,800	12,298,515
Common stock	12,648,601	1,302,835

Unaudited Interim Financial Statements

The unaudited interim financial statements as of March 31, 2014 and for the three months ended March 31, 2013 and 2014, and for the period from August 22, 2012 (inception) to March 31, 2014 and the related interim information contained within the notes to the combined and consolidated financial statements are unaudited. The unaudited interim financial statements have been prepared on the same basis as the annual financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary to present fairly the Company's consolidated financial position as of March 31, 2014 and its results of operations and cash flows for the three months ended March 31, 2013 and 2014, and for the period from August 22, 2012 (inception) to March 31, 2014. The results of operations and cash flows for the three months ended March 31, 2014 are not necessarily indicative of the results to be expected for the year ending December 31, 2014 or for any other future annual or interim period.

ATARA BIOTHERAPEUTICS, INC.
(A DEVELOPMENT STAGE COMPANY)
Notes to Combined and Consolidated Financial Statements

Unaudited Pro Forma Consolidated Balance Sheet

The unaudited pro forma consolidated balance sheet as of March 31, 2014 has been prepared giving effect to the repayment of notes receivable from a stockholder that took place in June 2014, the vesting of 63,076 shares of restricted common stock and the automatic conversion of all outstanding shares of preferred stock as of March 31, 2014 into 12,298,515 shares of our common stock upon the closing of this offering. The unaudited pro forma balance sheet also gives effect to approximately $2.8 million of stock-based compensation expense associated with restricted common stock awards and RSUs, which the Company expects to record upon completion of the Company's initial public offering. This amount relates to restricted common stock awards and RSUs for which both the service condition was satisfied as of March 31, 2014, and the performance condition would become probable as of March 31, 2014, assuming the completion of an initial public offering as of that day. Refer to Note 7 for further details. This pro forma adjustment related to stock-based compensation expense has been reflected as an increase to additional paid-in capital and accumulated deficit. Approximately 111,000 RSUs vested as of March 31, 2014 have not been included in the pro forma balance sheet disclosure of shares outstanding as the settlement of these shares is taking place subsequent to the effective date of the initial public offering. Payroll tax expenses and other withholding obligations have not been included in the pro forma adjustments. RSU holders generally will incur taxable income based upon the value of the shares on the date they are settled and the Company is required to withhold taxes on such value at applicable minimum statutory rates. The Company currently expects that the average of these withholding rates will be approximately 40%. The Company is unable to quantify these obligations as of March 31, 2014 and will remain unable to quantify this amount until the settlement of the RSUs as the withholding obligations will be based on the value of the shares on that date.

Liquidity

We have incurred significant operating losses since inception and have relied on private equity financings to fund operations. At March 31, 2014, we had an accumulated deficit of $19.9 million. As we continue to incur losses, our transition to profitability will depend on the successful development, approval and commercialization of product candidates and on the achievement of sufficient revenues to support our cost structure. We may never achieve profitability, and unless and until we do, we will need to continue to raise additional capital. Management expects that existing cash and cash equivalents as of March 31, 2014 will be sufficient to fund our current operating plan through the end of 2015.

Use of Estimates

The preparation of financial statements in conformity with US generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant estimates relied upon in preparing these combined and consolidated financial statements include the fair value of common stock, the fair value of preferred stock and estimates related to clinical trial accruals. Actual results could differ materially from those estimates.

ATARA BIOTHERAPEUTICS, INC.
(A DEVELOPMENT STAGE COMPANY)
Notes to Combined and Consolidated Financial Statements

Cash and Cash Equivalents

Cash equivalents are defined as short-term, highly liquid investments with original maturities of 90 days or less at the date of purchase, consisting of money market funds that earn interest and dividends overnight. The fair value of these investments approximates their cost.

Investments

Our available-for-sale investments consist primarily of corporate bonds and commercial paper. Investments with original maturities of greater than 90 days are classified as short-term available-for-sale securities on the combined and consolidated balance sheets.

Our investments in available-for-sale securities are reported at fair value. Unrealized gains and losses related to changes in the fair value of securities are recognized in accumulated other comprehensive loss, net of tax, on our combined and consolidated balance sheets. Changes in the fair value of available-for-sale securities impact the statements of operations only when such securities are sold or an other-than-temporary impairment is recognized. Realized gains and losses on the sale of securities are determined by specific identification of each security's cost basis. We regularly review our investment portfolio to determine if any security is other-than-temporarily impaired, which would require us to record an impairment charge in the period any such determination is made. In making this judgment, we evaluate, among other things, the duration and extent to which the fair value of a security is less than its cost, the financial condition of the issuer and any changes thereto, and our intent to sell, or whether it is more likely than not that we will be required to sell the security before recovery of its amortized cost basis. Our assessment on whether a security is other-than-temporarily impaired could change in the future due to new developments or changes in assumptions related to any particular security.

Fair Value Measurement

The carrying amounts of certain of our financial instruments including cash equivalents, accounts payable and accrued liabilities approximate fair value due to their short maturities. Short-term investments are comprised of available-for-sale securities, which are carried at fair value.

Concentration of Credit Risk and Other Uncertainties

We place cash and cash equivalents in the custody of financial institutions that management believes are of high credit quality, which at times, may be in excess of the amount insured by the Federal Deposit Insurance Corporation. We also have short-term investments in money market funds, corporate bonds and commercial paper backed by US Government or private insurers, which can be subject to certain credit risk. However, we mitigate the risks by investing in high-grade instruments, limiting our exposure to any one issuer, and monitoring the ongoing creditworthiness of the financial institutions and issuers.

We are subject to certain risks and uncertainties and believe that changes in any of the following areas could have a material adverse effect on future financial position or results of operations: ability to obtain future financing; regulatory approval and market acceptance of, and reimbursement for, our product candidates; performance of third-party clinical research organizations and manufacturers upon which we rely; development of sales channels; protection of our intellectual property; litigation or claims against us based on intellectual property, patent, product, regulatory or other factors; and our ability to attract and retain employees necessary to support our growth.

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Fair Value of Financial Instruments

Our financial assets and liabilities carried at fair value are primarily comprised of investments in money market funds, corporate bonds and commercial paper. The fair value accounting guidance requires that assets and liabilities be carried at fair value and classified in one of the following three categories:

Level 1: Quoted prices in active markets for identical assets or liabilities that we have the ability to access

Level 2: Observable market based inputs or unobservable inputs that are corroborated by market data such as quoted prices, interest rates and yield curves

Level 3: Inputs that are unobservable data points that are not corroborated by market data

We review the fair value hierarchy classification on a quarterly basis. Changes in the ability to observe valuation inputs may result in a reclassification of levels of certain securities within the fair value hierarchy. We recognize transfers into and out of levels within the fair value hierarchy in the period in which the actual event or change in circumstances that caused the transfer occurs. There were no transfers between Level 1, Level 2, and Level 3 during the period from August 22, 2012 (inception) to December 31, 2012, the year ended December 31, 2013 and the three months ended March 31, 2014.

The following table represents the fair value hierarchy for our financial assets and financial liabilities measured at fair value on a recurring basis:

	Total Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)
		(in thousands)	
At December 31, 2013:			
Cash equivalents:			
Money market funds	$51,615	$51,615	$ —
At March 31, 2014 (unaudited):			
Cash equivalents:			
Money market funds	$39,754	$39,754	$ —
Short-term Investments:			
Corporate bonds	$19,285	$ —	$ 19,285
Commercial paper	$ 2,992	$ —	$ 2,992

Financial assets and liabilities are considered Level 2 when their fair values are determined using inputs that are observable in the market or can be derived principally from or corroborated by observable market data such as pricing for similar securities, recently executed transactions, cash flow models with yield curves, and benchmark securities. In addition, Level 2 financial instruments are valued using comparisons to like-kind financial instruments and models that use readily observable market data as their basis.

Financial assets and liabilities are considered Level 3 when their fair values are determined using pricing models, discounted cash flow methodologies, or similar techniques, and at least one significant model assumption or input is unobservable. We have no Level 3 financial assets and liabilities.

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Available-for-sale investments are carried at fair value and are included in the tables above under short-term investments. The aggregate market value, cost basis, and gross unrealized gains and losses of available-for-sale investments by major security type are as follows:

	Total Amortized Cost	Total Unrealized Gain	Total Unrealized Loss	Total Fair Value
	(in thousands)			
At March 31, 2014 (unaudited):				
Short-term investments:				
Corporate bonds	$19,296	$ 3	$ (14)	$19,285
Commercial paper	2,992	—	—	2,992
Total short-term investments	$22,288	$ 3	$ (14)	$22,277

The amortized cost and fair value of available-for-sale debt investments, by contractual maturity, were as follows:

	Total Amortized Cost	Total Fair Value
	(in thousands)	
At March 31, 2014 (unaudited):		
Maturing within one year	$14,214	$14,208
Maturing in one to five years	8,075	8,069
Short-term available for sale investments	$22,289	$22,277

Segment and Geographic Information

We operate and manage our business as one reporting and one operating segment, which is the business of developing and commercializing therapeutics. Our chief executive officer (“CEO”), who is our chief operating decision maker, reviews financial information on an aggregate basis for purposes of allocating resources and evaluating financial performance. All of our assets are located in the United States.

Property and Equipment, Net

Property and equipment are stated at cost and depreciated using the straight-line method over the estimated useful lives of the assets, ranging from three to five years. Maintenance and repairs are charged to operations as incurred.

Long-lived Assets

We evaluate the carrying amount of our long-lived assets whenever events or changes in circumstances indicate that the assets may not be recoverable. An impairment loss would be recognized when estimated future cash flows expected to result from the use of the asset and its eventual disposition are less than the carrying amount of the asset. To date, there have been no such impairment losses.

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Convertible Preferred Stock

We recorded issued convertible preferred stock at fair value on the dates of issuance. The convertible preferred stock is recorded outside of stockholders' deficit because the shares contain liquidation features that are not solely within our control. We have elected not to adjust the carrying values of the convertible preferred stock to the liquidation preferences of such shares because it is uncertain whether or when an event would occur that would obligate us to pay the liquidation preferences to holders of shares of convertible preferred stock. Subsequent adjustments to increase the carrying values to the liquidation preferences will be made only when it becomes probable that such a liquidation event will occur.

Estimated Fair Value of Series A-1 Convertible Preferred Stock

In consideration for the licenses of our product candidate portfolio, we issued 5,538,462 shares of Series A-1 convertible preferred stock (615,384 shares after giving effect to the Recapitalization) and paid $250,000 to Amgen. We estimated the fair value of the acquired licenses to be the sum of $250,000 and the fair value of the Series A-1 convertible preferred stock preferred stock issued. This amount was expensed as acquired in-process research and development during the period from August 22, 2012 (inception) to December 31, 2012. See Note 4.

We estimated the fair value of our Series A-1 preferred stock to be $2,768,000 by using the option pricing model, or OPM, backsolve method. OPM treats the rights of the holders of shares of preferred and common stock as equivalent to call options on any value of the enterprise above certain break points of value based upon the liquidation preferences of the holders of preferred stock, as well as their rights to participation and conversion. Thus, the estimated value of the Series A-1 convertible preferred stock can be determined by estimating the value of its portion of each of these call option rights. The OPM backsolve method derives the implied equity value of a company from a recent transaction involving the company's own securities issued on an arm's-length basis. This implied equity value was then allocated to each part of our capital structure, including our Series A-1 convertible preferred stock and common stock. Significant assumptions included an estimated volatility of 53.3%, a risk free interest rate of 0.28% and a time to exit of 2.25 years.

Stock-Based Compensation Expense

We account for stock-based compensation expense, including the expense of restricted common stock awards and grants of RSUs that may be settled in shares of our common stock, based on the fair values of the equity instruments issued. The fair value is determined on the measurement date, which is generally the date of grant for employee awards and the date when the service performance is completed for non-employees. The fair value for our restricted common stock awards is their intrinsic value, which is the difference between the fair value of the underlying stock at the measurement date and the purchase price. The fair value of our RSUs is the fair value of the underlying stock at the measurement date. Stock-based compensation expense for awards with time-based vesting criteria is recognized as expense on a straight-line basis over the requisite service period for employees and on an accelerated graded vesting basis for non-employees. For employees' awards with performance-based vesting criteria, we assess the probability of the achievement of the performance conditions at the end of each reporting period and recognize the share-based compensation costs when it becomes probable that the performance conditions will be met. For non-employees' awards with performance-based vesting criteria, we assess all possible outcomes at the end of each reporting period and recognize the lowest aggregate fair value in the range of possible outcomes. The lowest value in the

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range of possible outcomes may be zero. For awards that are subject to both service and performance conditions, no expense is recognized until it is probable that performance conditions will be met.

The estimated fair value of our common stock was determined at each valuation date in accordance with the guidelines outlined in the American Institute of Certified Public Accountants Practice Aid, Valuation of Privately-Held-Company Equity Securities Issued as Compensation. Our board of directors, with the assistance of management, developed these valuations using significant judgment and taking into account numerous factors, including developments at our company, market conditions and contemporaneous independent third-party valuations with effective dates as of December 31, 2012, March 5, 2013, November 25, 2013, January 8, 2014 and March 31, 2014.

For each valuation date through January 8, 2014, we determined the fair value of our common stock by using the OPM backsolve method. We adjusted our estimates of fair value between valuation periods based upon changes in overall market conditions or achievement of milestones.

Our board of directors instructed management to consider an initial public offering in late January and in early March 2014, we selected investment bankers. The increased probability of an initial public offering was taken into consideration in the March 31, 2014 valuation, which is a critical factor contributing to the increase in the fair value of our common stock as of that date. For purposes of the March 31, 2014 valuation, a hybrid method was used to determine the fair value of our common stock, which incorporated use of both the probability-weighted return methodology, or PWERM, and the OPM. The PWERM is a scenario-based analysis that estimates the value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes available to us, as well as the economic and control rights of each share class. In the hybrid method, the OPM is used to estimate the allocation of value within one or more of PWERM scenarios. The hybrid method can be a useful alternative to explicitly modeling all PWERM scenarios in situations when the company has transparency into one or more near-term exits but is unsure about what will occur if the current plans fall through. The hybrid model was selected at this time for the reasons described relating to our plans for a potential initial public offering.

Under the hybrid method, the OPM was used to allocate the equity value considering the probability that an initial public offering does not occur in the near-term. Under this scenario, private transactions in our Series B shares and a discounted cash flow analysis were utilized to determine the fair value of the company. This value was then allocated using an OPM to determine the fair value of our shares under this scenario. The PWERM scenarios in the hybrid method consider three near-term exit events. The first scenario assumed we would complete an initial public offering within four months, the second scenario assumed we would complete an initial public offering within 13 months and the third scenario assumed we would complete an initial public offering within 21 months. The estimated time to liquidity was based on the probability weighted time of a liquidity event considering the four scenarios.

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Significant assumptions for each valuation include:

	Combined Common Stock Value[1]	Volatility[2]	Risk-free Rate	Years to Exit	Discount for Lack of Marketability
December 31, 2012	$ 1.60	53.3%	0.28%	2.25	29.7%
March 5, 2013	$ 1.63	54.5%	0.25%	2.00	29.7%
November 25, 2013	$ 2.57	54.2%	0.26%	1.75	26.9%
January 8, 2014	$ 2.67	53.2%	0.32%	1.63	25.5%
March 31, 2014[3]	$ 8.59	56.0%	0.14%	1.03	21.8%

(1) Common stock value is presented giving effect to the Recapitalization.
(2) The computation of expected volatility is based on the historical volatility of a representative group of public biotechnology and life sciences companies with similar characteristics, including early stage of product development and therapeutic focus.
(3) Derived by using OPM and PWERM in the hybrid method using multiple scenarios.

Research and Development Expense

Research and development expense consists of costs incurred in performing research and development activities, including compensation and benefits for research and development employees, an allocation of facility and overhead expenses, expenses incurred under agreements with contract research organizations and investigative sites that conduct clinical trials and preclinical studies, the costs of acquiring and manufacturing clinical trial materials, and other supplies and costs associated with product development efforts, preclinical activities and regulatory operations. Research and development costs are expensed as incurred.

Costs for preclinical study and clinical trial activities are recognized based on an evaluation of our vendors' progress towards completion of specific tasks, using data such as patient enrollment, clinical site activations or information provided to us by our vendors regarding their actual costs incurred. Payments for these activities are based on the terms of individual contracts and payment timing may differ significantly from the period in which the services are performed. We determine accrual estimates through reports from and discussions with applicable personnel and outside service providers as to the progress or state of completion of trials, or the services completed. Our estimates of accrued expenses as of each balance sheet date are based on the facts and circumstances known at the time. Costs that are paid in advance of performance are deferred as a prepaid expense and amortized over the service period as the services are provided.

Income Taxes

We use the assets and liability method to account for income taxes. We record deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement carrying amounts and the tax basis of assets and liabilities using enacted tax rates expected to be in effect when the differences are expected to reverse. Valuation allowances are provided when necessary to reduce net deferred tax assets to the amount that is more likely than not to be realized. Based on the available evidence, we are unable, at this time, to support the determination that it is more likely than not that our deferred tax assets will be utilized in the future. Accordingly, we recorded a full valuation allowance as of December 31, 2013 and 2012. We intend to maintain valuation allowances until sufficient evidence exists to support its reversal.

Tax benefits related to uncertain tax positions are recognized when it is more likely than not that a tax position will be sustained during an audit. Interest and penalties related to unrecognized tax benefits are included within the provision for income tax.

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Comprehensive Loss

Comprehensive loss is defined as a change in equity of a business enterprise during a period resulting from transactions from non-owner sources. Other comprehensive loss includes net loss and unrealized losses on available-for-sale investments.

Net Loss Per Common Share

Basic net loss per common share is presented, giving effect to the Recapitalization, including cancellation of existing Atara common stock and a nine-for-one share exchange and is calculated by dividing the net loss by the weighted-average number of shares of common stock outstanding during the period, without consideration of common stock equivalents. Diluted net loss per common share is computed by dividing the net loss by the weighted-average number of shares of common stock and common share equivalents outstanding for the period. Common share equivalents are only included in the calculation of diluted net loss per common share when their effect is dilutive. Our convertible preferred stock and restricted stock awards are considered to be participating securities as they are entitled to participate in undistributed earnings with shares of common stock. Due to net losses, there is no impact on earnings per share calculation in applying the two-class method since the participating securities have no legal requirement to share in any losses.

Potential dilutive securities, which include convertible preferred stock and unvested restricted common stock awards have been excluded from the computation of diluted net loss per share as the effect would be to reduce the net loss per common share and be antidilutive. Therefore, the denominator used to calculate both basic and diluted net loss per common share is the same in all periods presented.

The following shares of potentially dilutive securities, give effect to the Recapitalization, and have been excluded from the computations of diluted net loss per common share as the effect of including such securities would be antidilutive:

	Period from August 22, 2012 (Inception) to December 31, 2012	Year Ended December 31, 2013	Three months ended March 31,	
			2013	2014
			(unaudited)	
Convertible preferred stock	900,662	5,797,612	4,009,041	12,147,786
Unvested restricted common stock	326,146	790,216	678,336	774,374
	1,226,808	6,587,828	4,687,377	12,922,160

Unaudited Pro Forma Net Loss per Share

Pro forma basic and diluted net loss per share were computed to give effect to the automatic conversion of Series A convertible preferred stock, Series A-1 convertible preferred stock, and Series B convertible preferred stock using the “if converted” method as though the conversion had occurred as of the beginning of the period or the original date of issuance, if later. In addition, the pro forma share amounts give effect to the Company’s RSUs and restricted stock awards that have satisfied the service condition as of December 31, 2013 and March 31, 2014. These RSUs will vest and settle six months after the satisfaction of a qualifying event as further defined in Note 7.

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Stock-based compensation expense associated with the RSUs and restricted common stock awards is excluded from this pro forma presentation. If the qualifying event had occurred on March 31, 2014, the Company would have recorded $2.8 million of stock-based compensation expense related to these RSUs and restricted common stock awards.

	Year Ended December 31, 2013	Three Months Ended March 31, 2014
		(Unaudited)
Net loss	$ (8,773)	$ (7,049)
Basic and diluted shares:		
Weighted-average shares used to compute basic and diluted net loss per share	965,825	1,263,316
Pro forma adjustment to reflect assumed conversion of preferred stock to occur upon completion of the Company's initial public offering	5,797,612	12,147,786
Pro forma adjustment to reflect assumed vesting of restricted stock units	44,871	54,695
Pro forma adjustment to reflect assumed vesting of restricted stock awards to occur upon completion of the Company's initial public offering	62,435	63,076
Weighted-average shares used to compute basic and diluted pro forma net loss per share	6,870,743	13,528,873
Pro forma net loss per share attributable to common stockholders:		
Basic and diluted	$ (1.28)	$ (0.52)

The following potential common shares were excluded from the calculation of pro forma diluted net loss per share because their effect would have been anti-dilutive for the periods presented (in thousands):

	Year Ended December 31, 2013	Three months ended March 31, 2014
		(Unaudited)
Unvested restricted common stock	727,781	711,298
Unvested restricted stock units	199,163	796,019
	926,944	1,507,317

Recent Accounting Pronouncements

In July 2013, the Financial Accounting Standards Board issued a new accounting standard to clarify that an unrecognized tax benefit, or a portion thereof, should be presented in the financial statements as a reduction to a deferred tax assets for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward, except to the extent that a net operating loss carryforward, a similar tax loss, or a tax credit carryforward is not available at the reporting date to settle any additional

income taxes that would result from disallowance of a tax position, or the tax law does not require the entity to use and the entity does not intend to use the deferred tax asset for such a purpose, then the unrecognized tax benefit should be presented as a liability. We adopted this new standard effective January 1, 2014. The adoption of this new accounting standard did not have a significant impact on our financial condition or results of operations.

Subsequent Events

We evaluated subsequent events from December 31, 2013 through April 9, 2014 and from March 31, 2014 through May 22, 2014, the date when these combined and consolidated financial statements were originally available for issuance, and July 10, 2014, the date on which the retrospectively revised combined and consolidated financial statements were issued (as to the effect of the reverse stock split described in the first paragraph of Note 2). We have concluded that no subsequent events have occurred that require disclosure.

3. Property and Equipment

Property and equipment consists of computer equipment and software, which is depreciated over the estimated useful lives of the assets, ranging from three to five years. Depreciation and amortization expense for the period from August 22, 2012 (inception) to December 31, 2012, the year ended December 31, 2013 and the period from August 22, 2012 (inception) to December 31, 2013 was $246, $3,577, and $3,823, respectively. Accumulated depreciation and amortization as of December 31, 2012 and 2013 was $246 and $3,823 respectively.

Depreciation and amortization expense for the three months ended March 31, 2013 and 2014 and the period from August 22, 2012 (inception) to March 31, 2014 was $737, $1,115 and $4,938, respectively. Accumulated depreciation and amortization as of March 31, 2014 was $4,938.

4. Related Party License Agreement

In September 2012, we entered into three license agreements with Amgen for the development, manufacturing, use and distribution of products using certain proprietary compounds. Under the terms of these agreements, we paid $250,000 and issued 5,538,462 shares of Series A-1 convertible preferred stock (1,846,154 shares of each of Nina, Pinta and Santa Maria) to Amgen. As described further in Note 5, we may also be required to make additional payments to Amgen based upon the achievement of specified development, regulatory, and commercial milestones, as well as mid-single-digit percentage royalties on future sales of products resulting from development of this purchased technology, if any. These agreements expire at the end of all royalty obligations to Amgen and, upon expiration, the licenses will be fully paid, royalty-free, irrevocable and non-exclusive.

The license agreements with Amgen did not provide for the acquisition of employees, facilities or ongoing services and we determined that the acquired license rights did not constitute an acquisition of a business. As the licensed compounds are in an early stage of development, and the underlying technology has no alternative future uses, the $3,018,000 total of the upfront payment of $250,000 and the $2,768,000 value of the Series A-1 convertible preferred stock issuable under the agreements was recorded as acquired in-process research and development expense in our combined statements of operations and comprehensive loss for the period from August 22, 2012 (inception) to December 31, 2012. Milestones and royalties are contingent upon future events and will be recorded as expense when it is probable that the milestones will be achieved and we can reasonably estimate payment amounts.

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In 2012, we issued 3,531,774 shares of Series A-1 convertible preferred stock valued at $1,765,000 to Amgen and recorded a liability of $1,003,000 for the value of the remaining 2,006,688 shares of Series A-1 convertible preferred stock that we were obligated to issue to Amgen. These shares were issued in January and March 2013.

In 2013, Amgen purchased 5,653,059 shares of Series B convertible preferred stock for $5,000,000. At December 31, 2013, Amgen owns 9.8% of our outstanding voting capital stock on a combined basis. Amgen does not have any rights to participate in our product candidates' development and is not represented on our boards of directors.

During 2013, we purchased additional clinical supplies for a total purchase price of $552,772 from Amgen, which was recorded as research and development costs paid to Amgen in 2013.

We made no purchases from Amgen during the three months ended March 31, 2013 and 2014.

5. Commitments and Contingencies

Operating Leases

In September 2013, we entered into a noncancelable operating lease for our facility in Westlake Village, California. The lease term commenced in October 2013 and will expire in October 2014. Rent expense for this facility is recognized on a straight-line basis over the term of the lease, and the difference between amounts paid and amounts recorded as rent expense are recorded as deferred rent. Future minimum lease payments under this lease are $31,900 in 2014.

We also lease an office facility in Brisbane, California under a sublease that expires in January 2015. Future minimum payments under this lease are $23,220 in 2014 and $811 in 2015. Rent expense for the period from August 22, 2012 (inception) to December 31, 2012, the year ended December 31, 2013 and the period from August 22, 2012 (inception) to December 31, 2013 was $8,250, $57,553, and $65,803, respectively.

Rent expense for the three months ended March 31, 2013 and 2014 and the period from August 22, 2012 (inception) to March 31, 2014 was $13,181, $14,640 and $80,443, respectively.

Related Party License Agreements

Under the terms of our license agreements with Amgen, we are obligated to make additional milestone payments to Amgen of up to $86.0 million upon the achievement of certain development and regulatory approval milestones. Of these milestone payments, $14.0 million relate to milestones for clinical trials. The remaining $72.0 million relate to milestones for regulatory approvals in various territories and are anticipated to be made no earlier than 2017. Thereafter, we are obligated to make tiered payments based on achievement of commercial milestones based upon net sales levels. The maximum payments would be $206.0 million based on sales of over $1 billion for each of three products in a calendar year. We are also obligated to pay mid-single-digit percentage tiered royalties on future net sales of products which are developed and approved as defined by the agreements. Our royalty obligations as to a particular licensed product will be payable, on a country-by-country and product-by-product basis, until the later of (a) the date of expiration of the last to expire valid claim within the licensed patents that covers the manufacture, use or sale, offer to sell, or import of such licensed product by us or a sublicense in such country, (b) loss of regulatory exclusivity or (c) 10 years

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after the first commercial sale of the applicable licensed product in the applicable country. As of December 31, 2013 and March 31, 2014, there were no outstanding obligations due to Amgen. We made a $1.0 million milestone payment in the second quarter of 2014.

In accordance with terms of the agreements, we use commercially reasonable efforts to pay costs related to the preparation, filing, prosecution, defense and maintenance of the patents covered by the license agreements. In 2012 and 2013, we incurred expenses of $0.1 million and $0.8 million related to the preparation, filing and maintenance of patents. During the three months ended March 31, 2013 and 2014, we incurred expenses of $294,591 and $218,072, respectively, related to the preparation, filing and maintenance of patents.

Indemnification Agreements

In the normal course of business, we enter into contracts and agreements that contain a variety of representations and warranties and provide for indemnification for certain liabilities. The exposure under these agreements is unknown because it involves claims that may be made against us in the future but have not yet been made. To date, we have not paid any claims or been required to defend any action related to our indemnification obligations. However, we may record charges in the future as a result of these indemnification obligations. We also have indemnification obligations to our directors and executive officers for specified events or occurrences, subject to some limits, while they are serving at our request in such capacities. There have been no claims to date and we believe the fair value of these indemnification agreements is minimal. Accordingly, we have not recorded any liabilities for these agreements as of December 31, 2013 and March 31, 2014.

6. Convertible Preferred Stock and Stockholders' Deficit

Convertible preferred shares issued and authorized as of December 31, 2012 and 2013 were as follows:

	As of December 31, 2012							
	Nina		Pinta		Santa Maria		Combined Total	
	Shares	Carrying Value	Shares	Carrying Value	Shares	Carrying Value	Shares	Carrying Value
	(dollars in thousands)							
Issued and outstanding:								
Series A convertible preferred stock	3,846,154	$ 574	3,846,154	$2,478	3,846,154	$1,894	11,538,462	$4,946
Series A-1 convertible preferred stock	1,177,258	365	1,177,258	864	1,177,258	536	3,531,774	1,765
	5,023,412	$ 939	5,023,412	$3,342	5,023,412	$2,430	15,070,236	$6,711
Authorized:								
Series A convertible preferred stock	13,076,923		13,076,923		13,076,923		39,230,769	
Series A-1 convertible preferred stock	1,846,154		1,846,154		1,846,154		5,538,462	
	14,923,077		14,923,077		14,923,077		44,769,231	

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	As of December 31, 2013							
	Nina		Pinta		Santa Maria		Combined Total	
	Shares	Carrying Value	Shares	Carrying Value	Shares	Carrying Value	Shares	Carrying Value
				(dollars in thousands)				
Issued and outstanding:								
Series A convertible preferred stock	15,452,114	$2,306	15,452,114	$ 9,963	15,452,114	$ 7,640	46,356,342	$19,909
Series A-1 convertible preferred stock	1,846,154	573	1,846,154	1,355	1,846,154	840	5,538,462	2,768
Series B convertible preferred stock	14,509,579	2,496	14,509,579	17,960	14,509,579	17,958	43,528,737	38,414
	31,807,847	$5,375	31,807,847	$29,278	31,807,847	$26,438	95,423,541	$61,091
Authorized:								
Series A convertible preferred stock	15,452,114		15,452,114		15,452,114		46,356,342	
Series A-1 convertible preferred stock	1,846,154		1,846,154		1,846,154		5,538,462	
Series B convertible preferred stock	16,960,012		16,960,012		16,960,012		50,880,036	
	34,258,280		34,258,280		34,258,280		102,774,840	

	As of March 31, 2014 (unaudited)		
	Authorized Shares	Outstanding Shares	Carrying Value
		(dollars in thousands)	
Series A convertible preferred stock	5,150,699	5,150,699	$19,909
Series A-1 convertible preferred stock	615,384	615,384	2,768
Series B convertible preferred stock	6,532,432	6,532,432	51,895
	12,298,515	12,298,515	$74,572

Original issuance prices of Series A convertible preferred stock, prior to issuance costs, were $0.152, $0.650 and $0.498 per share, for Nina, Pinta and Santa Maria, respectively, or $1.30 per share on a combined basis. Original issuance prices of Series B convertible preferred stock, prior to issuance costs were $0.173, $1.240 and $1.240 per share, for Nina, Pinta and Santa Maria, respectively, or $2.653 per share on a combined basis. Amgen contributed licenses for issued Series A-1 convertible preferred stock with fair values of $0.310, $0.734 and $0.455 per share for Nina, Pinta and Santa Maria, respectively, or $1.500 per share on a combined basis.

In connection with the Recapitalization on March 31, 2014, the stockholders of Nina, Pinta and Santa Maria exchanged three shares of each company's preferred stock for one share of Atara preferred stock (a collective nine-for-one basis). The deemed original issuance prices of the new Atara preferred shares, for the calculation of the dividends and liquidation preference discussed below are $3.900, $4.875, and $7.960 for Series A, Series A-1, and Series B, respectively.

Nina, Pinta and Santa Maria issued convertible preferred stock with the same rights and privileges to the same investors. As of December 31, 2013, Atara had not issued any convertible preferred stock. In connection with the Recapitalization on March 31, 2014, Atara issued convertible preferred stock with the same rights and privileges and with the same ownership percentages as the

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convertible preferred stock previously issued by Nina, Pinta and Santa Maria. The significant rights, privileges, and preferences of our convertible preferred stock are as follows:

Dividend Provisions

The holders of the outstanding shares of convertible preferred stock are entitled to receive, when and if declared by our boards of directors, noncumulative annual dividends at a rate of 8% of the $20,087,750 and $52,000,000 liquidation preferences for the Series A and Series B convertible preferred stock, respectively, and 8% of the $3,000,000 liquidation preference for Series A-1 convertible preferred stock. After payments of such dividends, any additional dividends are paid to common and convertible preferred stock holders on an as-converted to common stock basis. No dividends were declared or paid through March 31, 2014.

Liquidation Preference

In the event of any liquidation, dissolution, winding up or change in control of the Company, the holders of Series B convertible preferred stock are entitled to receive a liquidation amount of $52,000,000 plus all declared but unpaid dividends prior and in preference to the holders of Series A and Series A-1 convertible preferred stock and the common stock. Following payment of these liquidation amounts, if proceeds for distribution remain, the holders of the Series A-1 convertible preferred and Series A convertible preferred stock, pro rata as a single group, are entitled to receive a liquidation amount of $20,087,750 and $3,000,000, respectively, plus all declared but unpaid dividends prior and in preference to the common stockholders. Thereafter, any proceeds remaining for distribution would be distributed pro rata among the common stockholders. Holders of convertible preferred stock may choose to receive the liquidation preference described above as preferred stockholders or instead may participate with the common stock in remaining liquidation proceeds on an as-converted to common stock basis.

Conversion Rights

Each share of convertible preferred stock is convertible, at the option of the holder and at any time, into shares of common stock on a one-for-one basis, subject to certain anti-dilution adjustments.

Each share of convertible preferred stock, subject to certain anti-dilution adjustments, will be automatically converted into one fully paid and nonassessable share of common stock at the applicable conversion rate upon the earlier of: (i) an initial public offering with a pre-initial public offering valuation that results in a price to the public of at least three times the Series B issue price (reduced to 1.6 times following the Recapitalization—see Note 2) and minimum proceeds to us of $30,000,000 or (ii) the date specified by a vote of the holders of a majority of outstanding shares of preferred stock.

Subject to customary exceptions, our amended and restated certificates of incorporation provide anti-dilution protection for holders of convertible preferred stock in the event that we issue additional shares of common stock, options or rights to purchase common stock or securities convertible into common stock without consideration or at a price per share that is less than the then-effective conversion price of any series of the convertible preferred stock, which is referred to as a dilutive issuance. Our amended and restated certificates of incorporation provide that the conversion price shall be adjusted to protect holders of convertible preferred stock from certain dilutive issuances based on a weighted-average formula.

In addition to the anti-dilution protections described above, the conversion price of the convertible preferred stock is subject to adjustments for stock splits, dividends and recapitalizations.

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Voting Rights

The holder of each share of convertible preferred stock has the right to one vote for each share of common stock into which such share of convertible preferred stock could be converted. Additionally, specific protective provisions require approval of the holders of a majority of the outstanding shares of convertible preferred stock.

Election of Directors

The members of the boards of directors of Nina, Pinta and Santa Maria were identical for all three companies for the periods presented and were elected as follows: (i) one person was elected by the holders of the common stock; (ii) two persons were elected by the holders of our Series A convertible preferred stock; (iii) one person was elected by the holders of our Series B convertible preferred stock; and (iv) the remaining directors were elected by the holders of our common stock and convertible preferred stock as a single class.

The members of the board of directors of Atara after the Recapitalization were elected as follows: (i) one person was elected by the holders of the common stock; (ii) two persons were elected by the holders of our Series A convertible preferred stock; (iii) one person was elected by the holders of our Series B convertible preferred stock; and (iv) the remaining directors were elected by the holders of our common stock and convertible preferred stock as a single class.

7. Common Stock and Additional Paid-in Capital

Common stock issued, outstanding and authorized and additional paid-in capital as of December 31, 2012 and 2013 were as follows:

	As of December 31, 2012									
	Nina		Pinta		Santa Maria		Atara		Combined Total	
	Shares	Carrying Value	Shares	Carrying Value	Shares	Carrying Value	Shares	Carrying Value	Shares	Carrying Value
	(dollars in thousands)									
Issued and outstanding:										
Common stock, par value	2,384,615	$ —	2,384,615	$ —	2,384,615	$ 1	307,692	$ —	7,461,537	$ 1
Additional paid-in capital	—	57	—	190	—	135	—	—	—	382
	2,384,615	$ 57	2,384,615	$ 190	2,384,615	$ 136	307,692	$ —	7,461,537	$ 383
Authorized	28,461,538		28,461,538		28,461,538		769,230		86,153,844	

	As of December 31, 2013									
	Nina		Pinta		Santa Maria		Atara		Combined Total	
	Shares	Carrying Value	Shares	Carrying Value	Shares	Carrying Value	Shares	Carrying Value	Shares	Carrying Value
	(dollars in thousands)									
Issued and outstanding:										
Common stock, par value	3,693,605	$ —	3,693,605	$ —	3,693,605	$ 1	923,076	$ —	12,003,891	$ 1
Additional paid-in capital	—	147	—	1,017	—	1,036	—	—	—	2,200
	3,693,605	$ 147	3,693,605	$ 1,017	3,693,605	$ 1,037	923,076	$ —	12,003,891	$ 2,201
Authorized	53,846,153		53,846,153		53,846,153		923,076		162,461,535	

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Common stock issued and outstanding during the three months ended March 31, 2014 was as follows:

	Authorized	Outstanding
As of December 31, 2013	162,461,535	12,003,891
Issuance of common stock upon vesting of awards	—	644,710
Recapitalization:		
Cancellation of Atara shares	(923,076)	(923,076)
Tender of Nina, Pinta and Santa Maria shares	(161,538,459)	(11,725,525)
Issuance of Atara shares	17,948,717	1,302,835
As of March 31, 2014 (unaudited)	17,948,717	1,302,835

We have reserved the following shares of common stock for issuance (presented on a combined basis as of December 31, 2013):

	December 31, 2013	March 31, 2014[1] (unaudited)
Conversion of Series A convertible preferred stock	46,356,342	5,150,699
Conversion of Series A-1 convertible preferred stock	5,538,462	615,384
Conversion of Series B convertible preferred stock	43,528,737	6,532,432
Common stock available for grant of stock awards	17,021,923	1,294,041
Common stock issuable for RSUs outstanding and non-vested restricted stock	10,458,793	1,687,737
	122,904,257	15,280,293

(1) The share amounts presented as of March 31, 2014 reflect the impact of the Recapitalization after giving effect to the nine-for-one stock exchange.

Restricted Common Stock

In August 2012, in connection with our formation, our CEO purchased 9,595,384 shares of restricted common stock at a nominal per share purchase price. The shares were issued subject to certain vesting conditions, restrictions on transfer and a Company right of repurchase of any unvested share at their original purchase price. These shares are placed in escrow until vested, and have rights to vote and participate in dividends and distributions. 7,996,153 of these shares have service and fundraising vesting conditions. Under the service vesting condition, shares vest monthly over 48 months, commencing from the first closing of Series A convertible preferred stock financing on October 22, 2012. 1,599,231 of these shares are subject to performance milestones and fundraising vesting conditions. The fundraising vesting conditions for all shares were satisfied as of December 31, 2013. All shares subject to service vesting conditions are subject to accelerated vesting in the event of certain change of control transactions.

The combined grant date intrinsic value for this award was $1,704,094. As of December 31, 2013 there was $887,904 of unrecognized stock-based compensation expense related to this restricted common stock. Assuming an initial public offering had occurred on December 31, 2013, $158,282 of this stock-based compensation cost would have been recognized in our statement of operations and comprehensive loss for 2013 and $729,622 would be recognized over the remaining service periods through 2016.

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As of March 31, 2014, there was $2,379,035 of unrecognized stock-based compensation expense related to this restricted common stock. Assuming an initial public offering had occurred on March 31, 2014, $511,280 of this stock-based compensation would have been recognized in our statement of operations and comprehensive loss for the three months ended March 31, 2014 and $1,867,755 would have been recognized over the remaining service periods through 2016.

In March 2013, an Atara employee purchased 2,423,074 shares of restricted common stock for $331,170. The shares were issued under our 2012 Equity Incentive Plan (as discussed below) and are subject to certain vesting conditions, restrictions on transfer and a Company right of repurchase of any unvested shares at their original purchase price. These shares are placed in escrow until vested, and have rights to vote and participate in dividends and distributions. Under these agreements, the shares vest as follows: 2,319,228 shares vest over four years, with one-quarter vesting after one year of service and the remainder vesting in equal installments over the subsequent thirty-six months, and 103,846 shares vest upon achievement of certain performance milestones. Vesting of all shares is subject to acceleration of vesting in the event of certain change of control transactions.

The combined grant date intrinsic value for this award was $98,500. As of December 31, 2013, there was $125,407 of unrecognized stock-based compensation expense related to this restricted common stock. Assuming an initial public offering had occurred on December 31, 2013, $5,552 of this stock-based compensation cost would have been recognized in our statement of operations and comprehensive loss for 2013, $5,552 would be recognized upon completion of a performance milestone in 2014, and $114,303 would be recognized over the remaining service periods through 2016.

As of March 31, 2014, there was $521,469 of unrecognized stock-based compensation expense related to this restricted common stock. Assuming an initial public offering had occurred on March 31, 2014, $28,469 of this stock-based compensation expense would have been recognized in our statement of operations and comprehensive loss for the three months ended March 31, 2014 and $493,000 would have been recognized over the remaining service periods through 2016.

The restricted common stock was purchased with secured promissory notes totaling $331,170. The notes bear interest at an annual interest rate of 1.5% and are due on the earlier of five years following the purchase date, the sale or transfer of the related shares, termination of employment or the date prior to the date of a filing of a registration statement with the Securities and Exchange Commission. The notes are secured by shares of common stock owned by the employee and are included in stockholders' deficit in our combined and consolidated balance sheets. In March 2014, $37,716 of the outstanding balance was repaid.

The amounts paid for both restricted stock purchases were initially recorded as other long-term liabilities. As shares vest, we reclassify liabilities to equity and report shares as outstanding in the combined and consolidated statements of convertible preferred stock and stockholders' deficit. At December 31, 2013, 4,157,739 shares had vested and are classified as equity. Restricted stock shares not vested at December 31, 2013 totaled 7,860,719 shares and are expected to vest over three years.

Prior to the Recapitalization, 4,802,450 shares had vested and were classified as equity. On March 31, 2014, these shares were exchanged for 533,605 shares of Atara common stock. Restricted shares not vested at March 31, 2014 totalled 7,216,006 and these shares were exchanged for 801,778 shares of Atara restricted common stock.

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As both the Chief Executive Officer and the Atara employee were consultants of Nina, Pinta and Santa Maria through the Recapitalization date, we accounted for these awards as non-employee stock-based awards. Following the Recapitalization, these awards will be accounted as employee awards based upon the fair market value at March 31, 2014. Total stock-based compensation expense related to these awards was as follows:

	Period from August 22, 2012 (Inception) to December 31, 2012	Year Ended December 31, 2013	Period from August 22, 2012 (Inception) to December 31, 2013	Three months ended March 31, 2013 (unaudited)	Three months ended March 31, 2014 (unaudited)	Period from August 22, 2012 (Inception) to March 31, 2014 (unaudited)
	(in thousands)					
Research and development	$ —	$ 251	$ 251	$ 39	$ 705	$ 956
General and administrative	292	1,462	1,754	309	2,612	4,366
	$ 292	$ 1,713	$ 2,005	$ 348	$ 3,317	$ 5,322

As this stock-based compensation expense relates to shares of common stock for which the fundraising condition was met and our right of repurchase has lapsed, these amounts have been recorded as additional paid-in capital in our combined and consolidated balance sheets.

2012 Equity Incentive Plans

We adopted the Nina 2012 Equity Incentive Plan, Pinta 2012 Equity Incentive Plan and Santa Maria 2012 Equity Incentive Plan (collectively, the “plans”) in November 2012. Under the terms of the plans, we may grant options, restricted stock awards and RSUs to employees, directors, consultants and other service providers. Employees typically receive an award upon commencement of employment and non-employee members of our boards of directors receive an award in connection with their appointment. At December 31, 2013, the aggregate number of awards available to be issued under the plans was 17,021,923 shares of common stock. RSUs expire at the earlier of seven years from the date of grant or two years following the service termination date (or, for RSUs granted after January 2014, the service termination date). Generally, if any shares subject to an award expire, or are forfeited, terminated or cancelled without the issuance of shares, the shares are added back into the total shares available for issuance under the plans.

Through December 31, 2013, we have granted restricted common stock (discussed above) and RSUs under the plans. The RSUs have a time-based service condition and a liquidity-based performance condition, and will vest when both conditions are met. We have determined that the liquidity-based performance condition is not probable of occurring and have recorded no compensation expense related to the RSUs during the period from August 22, 2012 (inception) to December 31, 2013. As of December 31, 2013, there was approximately $788,335 of unrecognized stock-based compensation expense related to nonvested RSUs. Assuming an initial public offering had occurred on December 31, 2013, $417,512 of this stock-based compensation expense would have been recognized in our statement of operations and comprehensive loss for 2013 and $370,823 would be recognized over the remaining service periods through 2017.

As the restricted common stock and the RSUs were granted by Nina, Pinta and Santa Maria, the grants are considered to be non-employee awards until the Recapitalization. Accordingly, the fair value of

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the awards is remeasured at each period end by multiplying the number of unvested shares by the per-share fair value of common stock at period end. A summary of the awards granted and vested on a combined and consolidated basis during the period from August 22, 2012 (inception) to March 31, 2014 is as follows:

	Combined Number of Units/Awards	Weighted-average Grant Date Fair Value
Unvested at December 31, 2012	—	$ —
Granted—Restricted stock units	2,598,074	$ 0.189
Granted—Restricted stock awards	2,423,074	$ 0.045
Vested—Restricted stock awards	(759,374)	$ 0.045
Unvested at December 31, 2013	4,261,774	$ 0.133
Granted—Restricted stock units (unaudited)	5,375,742	$ 0.606
Vested—Restricted stock awards (unaudited)	(144,951)	$ 0.045
Unvested at March 30, 2014 (unaudited)	9,492,565	$ 0.402
Recapitalization (Note 2) (unaudited)	(8,437,856)	
Unvested at March 31, 2014 (unaudited)	1,054,709	$ 3.619

Through March 31, 2014, we have granted restricted common stock (discussed above) and RSUs under the plans. The RSUs have a time-based service condition and a liquidity-based performance condition, and will vest when both conditions are met. We have determined that the liquidity-based performance condition is not probable of occurring and have recorded no compensation expense related to the RSUs during the period from August 22, 2012 (inception) to March 31, 2014. As of March 31, 2014, there was approximately $7,647,788 of unrecognized stock-based compensation expense related to nonvested RSUs. Assuming an initial public offering had occurred on March 31, 2014, $2,253,569 of this stock-based compensation expense would have been recognized in our statement of operations and comprehensive loss for the quarter ended March 31, 2014 and $5,394,219 would be recognized over the remaining service periods through 2018.

2014 Equity Incentive Plan

We adopted the 2014 Equity Incentive Plan on March 31, 2014 as part of the Recapitalization. In connection with the Recapitalization, Atara assumed the plans of Nina, Pinta and Santa Maria and all outstanding RSUs and restricted stock awards granted under such plans. At the time of settlement, each employee or consultant will receive one share of common stock of Atara for three shares in each of Nina, Pinta and Santa Maria (collectively, a nine-for-one exchange). At the date of Recapitalization, RSUs and restricted stock awards issued by Nina, Pinta and Santa Maria to Atara employees become employee awards and the awards' grant dates were established as the Recapitalization date. Under the terms of the 2014 Equity Incentive Plan, the aggregate number of awards available for issuance is 2,449,230 shares of common stock as of March 31, 2014. This aggregate amount includes the remaining shares that were previously available for issuance under the existing plans (1,294,041 shares of common stock, after giving effect to the nine-for-one exchange). There were no awards granted or vested under the 2014 Equity Incentive Plan during the quarter ended March 31, 2014.

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8. Income Taxes

The Company recorded the following income tax provision as follows:

	Period from August 22, 2012 (Inception) to December 31, 2012	Year Ended December 31, 2013	Period from August 22, 2012 (Inception) to December 31, 2013
		(in thousands)	
Current:			
Federal	$ 14	$ 153	$ 167
State	3	17	20
Total taxes	$ 17	$ 170	$ 187

A reconciliation of the statutory tax rates and the effective tax rates for the period from August 22, 2012 (inception) to December 31, 2012, the year ended December 2013 and the period from August 22, 2012 (inception) to December 31, 2013 is as follows:

	Period from August 22, 2012 (Inception) To December 31, 2012	Year Ended December 31, 2013	Period from August 22, 2012 (Inception) To December 31, 2013
Federal income taxes at statutory rate	34.0%	34.0%	34.0%
Nondeductible stock compensation	(1.4%)	(6.8%)	(5.1%)
State income tax, net of federal benefit	(0.1%)	(0.3%)	(0.2%)
Other	—	(0.1%)	(0.1%)
Valuation allowance	(32.9%)	(28.8%)	(30.1%)
Effective tax rate	(0.4%)	(2.0%)	(1.5%)

Deferred tax assets and liabilities reflect the net tax effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of our deferred tax assets and liabilities were as follows:

	December 31, 2012	December 31, 2013
	(in thousands)	
Deferred tax assets:		
Net operating losses	$ 325	$ 2,874
License fees	1,202	1,121
Legal fees	28	343
Other	21	140
Total deferred tax assets	1,576	4,478
Valuation allowance	(1,576)	(4,478)
Net deferred tax assets	$ —	$ —

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We recognize deferred income taxes for temporary differences between the basis of assets and liabilities for financial statement and income tax purposes. We periodically evaluate the positive and negative evidence bearing upon realizability of our deferred tax assets. Based upon the weight of available evidence, which includes our historical operating performance, reported cumulative net losses since inception and difficulty in accurately forecasting our future results, we maintained a full valuation allowance on the net deferred tax assets as of December 31, 2012 and 2013. We intend to maintain a full valuation allowance on the US deferred tax assets until sufficient positive evidence exists to support reversal of the valuation allowance. The valuation allowance increased by $1,576,000 and $2,902,000 for the period from August 22, 2012 (inception) to December 31, 2012 and the year ended December 31, 2013.

At December 31, 2012 and 2013, we had federal and state net operating loss carryforwards of approximately $816,000 and $7,220,000 respectively, which if not utilized begin to expire in various amounts beginning in the year 2032.

Under Section 382 of the Internal Revenue Code of 1986, as amended (the “Code”), our ability to utilize net operating loss carryforwards or other tax attributes, such as research tax credits, in any taxable year may be limited if we have experienced an “ownership change.” Generally, a Section 382 “ownership change” occurs if one or more stockholders or groups of stockholders who owns at least 5% of a corporation’s stock increases its ownership by more than 50 percentage points over its lowest ownership percentage within a specified testing period. Similar rules may apply under state tax laws. During 2014, we completed a Section 382 study of transactions in our stock through December 31, 2013.

The study concluded that we have experienced at least one ownership change since inception and that our utilization of net operating loss carryforwards will be subject to annual limitations. These results are reflected in the above carryforward amounts. Our ability to utilize our net operating loss carryforwards may be further limited as a result of subsequent ownership changes including potential changes in connection with or after our proposed initial public offering. Further, other provisions of the Code may limit our ability to utilize federal net operating losses incurred before the Recapitalization (as defined in Note 9 below) to offset income or gain realized after the Recapitalization unless such income or gain is realized by the same entity that originally incurred such losses. All such limitations could result in the expiration of carryforwards before they are utilized.

We file income tax returns in the US federal jurisdiction and California. Based on the statute of limitations, the US federal corporation income tax returns beginning with the 2012 tax year remain subject to examination by the Internal Revenue Service. Similarly, the California corporation income tax returns beginning with the 2012 tax year remain subject to examination by the California Franchise Tax Board.

We had no unrecognized tax benefits as of December 31, 2012 and 2013. Our policy is to recognize interest and penalties related to income taxes as a component of income tax expense. No interest and penalty expenses have been recognized in the combined statements of operations and comprehensive loss for the period from August 22 (inception) to December 31, 2012 and for the year ended December 31, 2013.

5,000,000 Shares

Common Stock

Goldman, Sachs & Co. **Citigroup**

Jefferies

Through and including , 2014 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

PART II

Information Not Required in Prospectus

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, other than the underwriting discounts and commissions, payable in connection with the sale and distribution of the securities being registered. All amounts are estimated except the SEC registration fee, the FINRA filing fee and the Nasdaq listing fee. Except as otherwise noted, all the expenses below will be paid by us.

SEC registration fee	$ 11,850
FINRA filing fee	14,300
Nasdaq initial listing fee	125,000
Legal fees and expenses	1,452,975
Accounting fees and expenses	578,000
Printing and engraving expenses	200,000
Transfer agent and registrar fees and expenses	7,500
Miscellaneous fees and expenses	357,375
Total	$2,747,000

Item 14. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act of 1933, as amended. Our amended and restated certificate of incorporation to be in effect prior to the closing of this offering provides for indemnification of our directors, officers, employees and other agents to the maximum extent permitted by the Delaware General Corporation Law, and our amended and restated bylaws to be in effect prior to the closing of this offering provide for indemnification of our directors, officers, employees and other agents to the maximum extent permitted by the Delaware General Corporation Law.

We have entered into indemnification agreements with our directors and executive officers, whereby we have agreed to indemnify our directors and executive officers to the fullest extent permitted by law, including indemnification against expenses and liabilities incurred in legal proceedings to which the director or executive officer was, or is threatened to be made, a party by reason of the fact that such director or executive officer is or was our director, officer, employee or agent, provided that such director or executive officer acted in good faith and in a manner that the director or executive officer reasonably believed to be in, or not opposed to, the our best interest. At present, there is no pending litigation or proceeding involving any of our directors or executive officers regarding which indemnification is sought, nor are we aware of any threatened litigation that may result in claims for indemnification.

We maintain insurance policies that indemnify our directors and officers against various liabilities arising under the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, that might be incurred by any director or officer in his capacity as such.

The underwriters are obligated, under certain circumstances, pursuant to the underwriting agreement to be filed as Exhibit 1.1 hereto, to indemnify us, our officers and our directors against liabilities under the Securities Act of 1933, as amended.

Item 15. Recent Sales of Unregistered Securities.

The following sets forth information regarding all unregistered securities sold since the inception of the registrant in August 2012 (share and per share amounts give effect to a 1.3-to-1 reverse split of our outstanding common stock and preferred that was effected on July 9, 2014):

(a) We issued 923,076 shares of common stock for a price of $0.0013 per share in August 2012 and March 2013 (which shares were contributed back to the capital of the company in connection with the recapitalization described in the prospectus forming part of this registration statement);

(b) We issued 2,104,613 shares of common stock and 12,298,515 shares of preferred stock to the stockholders of Nina Biotherapeutics, Inc., Pinta Biotherapeutics, Inc. and Santa Maria Biotherapeutics, Inc. in such recapitalization, at a rate of one share of common stock or preferred stock of the company, respectively, for one share of common stock and preferred stock, respectively, of each of Nina Biotherapeutics, Inc., Pinta Biotherapeutics, Inc. and Santa Maria Biotherapeutics, Inc.; and

(c) We issued RSUs for 893,651 shares of common stock and options to purchase 61,920 shares of common stock to our employees, directors and consultants. All of such RSUs remain outstanding.

The offers, sales and issuances of the securities described in Item 15(a) were deemed to be exempt from registration under the Securities Act under either (1) Rule 701 promulgated under the Securities Act as offers and sale of securities pursuant to certain compensatory benefit plans and contracts relating to compensation in compliance with Rule 701 or (2) Section 4(2) of the Securities Act as transactions by an issuer not involving any public offering. The recipients of securities in each of these transactions represented their intention to acquire the securities for investment only and not with view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the stock certificates and instruments issued in such transactions.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

Exhibit No.	Description of Exhibit
1.1	Form of Underwriting Agreement.
3.1	Restated Certificate of Incorporation of Atara Biotherapeutics, Inc., as currently in effect.
3.2*	Form of Amended and Restated Certificate of Incorporation of Atara Biotherapeutics, Inc., to be in effect upon closing of this offering.
3.3*	Bylaws of Atara Biotherapeutics, Inc., as currently in effect.
3.4*	Form of Amended and Restated Bylaws of Atara Biotherapeutics, Inc., to be in effect upon closing of this offering.
4.1	Form of common stock certificate.
4.2*	Investor Rights Agreement, by and among Atara Biotherapeutics, Inc. and the stockholders named therein, dated March 31, 2014.
5.1	Opinion of Cooley LLP.
10.1	2014 Equity Incentive Plan.
10.2*	Forms of Option Agreement and Option Grant Notice under the 2014 Equity Incentive Plan.
10.3*	Form of Restricted Stock Unit Agreement and Restricted Stock Unit Grant Notice under the 2014 Equity Incentive Plan.

Exhibit No.	Description of Exhibit
10.4*	Nina Biotherapeutics, Inc. 2012 Equity Incentive Plan.
10.5*	Pinta Biotherapeutics, Inc. 2012 Equity Incentive Plan.
10.6*	Santa Maria Biotherapeutics, Inc. 2012 Equity Incentive Plan.
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21.1*	List of subsidiaries.
23.1	Consent of Cooley LLP (included in Exhibit 5.1).
23.2	Consent of Deloitte & Touche LLP, independent registered public accounting firm.
24.1*	Power of Attorney.

* Previously filed.

† The registrant has requested confidential treatment for a portion of this exhibit.

(b) Financial statement schedules.

All schedules have been omitted because the information required to be presented in them is not applicable or is shown in the combined and consolidated financial statements or related notes.

Item 17. Undertakings

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the Underwriting Agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, we have duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Brisbane, State of California, on the 10th day of July, 2014.

ATARA BIOTHERAPEUTICS, INC.

By: /s/ Isaac E. Ciechanover
Isaac E. Ciechanover
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Isaac E. Ciechanover and John F. McGrath, Jr., and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him or her and in his or her name, place or stead, in any and all capacities, to sign any and all amendments to this Registration Statement (including post-effective amendments), and to sign any registration statement for the same offering covered by this Registration Statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their, his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Isaac E. Ciechanover Isaac E. Ciechanover, M.D.	President and Chief Executive Officer *(principal executive officer)*	July 10, 2014
/s/ John F. McGrath, Jr. John F. McGrath, Jr.	Chief Financial Officer *(principal financial and accounting officer)*	July 10, 2014
* Matthew K. Fust	Director	July 10, 2014
* Carol Gallagher, Pharm.D.	Director	July 10, 2014
* Joel S. Marcus	Director	July 10, 2014
* Beth Seidenberg, M.D.	Director	July 10, 2014
* Eckard Weber, M.D.	Director	July 10, 2014

*By: /s/ Isaac E. Ciechanover
Isaac E. Ciechanover
Attorney-in-fact

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EXHIBIT INDEX

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3.2*	Form of Amended and Restated Certificate of Incorporation of Atara Biotherapeutics, Inc., to be in effect upon closing of this offering.
3.3*	Bylaws of Atara Biotherapeutics, Inc., as currently in effect.
3.4*	Form of Amended and Restated Bylaws of Atara Biotherapeutics, Inc., to be in effect upon closing of this offering.
4.1	Form of common stock certificate.
4.2*	Investor Rights Agreement, by and among Atara Biotherapeutics, Inc. and the stockholders named therein, dated March 31, 2014.
5.1	Opinion of Cooley LLP.
10.1	2014 Equity Incentive Plan.
10.2*	Forms of Option Agreement and Option Grant Notice under the 2014 Equity Incentive Plan.
10.3*	Form of Restricted Stock Unit Agreement and Restricted Stock Unit Grant Notice under the 2014 Equity Incentive Plan.
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* Previously filed.

† The registrant has requested confidential treatment for a portion of this exhibit.

Exhibit 1.1

Atara Biotherapeutics, Inc.

Common Stock

Underwriting Agreement

[ ], 2014

Goldman, Sachs & Co.,
Citigroup Global Markets Inc.

As representatives of the several Underwriters named in Schedule I hereto,

c/o Goldman, Sachs & Co.
200 West Street,
New York, New York 10282

c/o Citigroup Global Markets Inc.
388 Greenwich Street
New York, New York 10013

Ladies and Gentlemen:

Atara Biotherapeutics, Inc., a Delaware corporation (the "Company"), proposes, subject to the terms and conditions stated herein, to issue and sell to the Underwriters named in Schedule I hereto (the "Underwriters") an aggregate of [ ] shares (the "Firm Shares") and, at the election of the Underwriters, up to [ ] additional shares (the "Optional Shares") of common stock, par value $0.0001 per share, ("Stock") of the Company. The Firm Shares and the Optional Shares that the Underwriters elect to purchase pursuant to Section 2 hereof are herein collectively called the "Shares".

1. The Company represents and warrants to, and agrees with, each of the Underwriters that:

(a) A registration statement on Form S-1 (File No. 333-196936) (the "Initial Registration Statement") in respect of the Shares has been filed with the Securities and Exchange Commission (the "Commission"); the Initial Registration Statement and any post-effective amendment thereto, each in the form heretofore delivered to you and, excluding exhibits thereto, to you for each of the other Underwriters, have been declared effective by the Commission in such form; other than a registration statement, if any, increasing the size of the offering (a "Rule 462(b) Registration Statement"), filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the "Act"), which became effective upon filing, no other document with respect to the Initial Registration Statement has heretofore been filed with the Commission; and, to the Company's knowledge, no stop order suspending the effectiveness of the Initial Registration Statement, any post-effective

amendment thereto or the Rule 462(b) Registration Statement, if any, has been issued and no proceeding for that purpose has been initiated or threatened by the Commission (any preliminary prospectus included in the Initial Registration Statement or filed with the Commission pursuant to Rule 424(a) of the rules and regulations of the Commission under the Act is hereinafter called a "Preliminary Prospectus"; the various parts of the Initial Registration Statement and the Rule 462(b) Registration Statement, if any, including all exhibits thereto and including the information contained in the form of final prospectus filed with the Commission pursuant to Rule 424(b) under the Act in accordance with Section 5(a) hereof and deemed by virtue of Rule 430A under the Act to be part of the Initial Registration Statement at the time it was declared effective, each as amended at the time such part of the Initial Registration Statement became effective or such part of the Rule 462(b) Registration Statement, if any, became or hereafter becomes effective, are hereinafter collectively called the "Registration Statement"; the Preliminary Prospectus relating to the Shares that was included in the Registration Statement immediately prior to the Applicable Time (as defined in Section 1(c) hereof) is hereinafter called the "Pricing Prospectus"; such final prospectus, in the form first filed pursuant to Rule 424(b) under the Act, is hereinafter called the "Prospectus"; any "issuer free writing prospectus" as defined in Rule 433 under the Act relating to the Shares is hereinafter called an "Issuer Free Writing Prospectus"); any oral or written communication with potential investors undertaken in reliance on Section 5(d) of the Act is hereinafter called a "Section 5(d) Communication"; and any Section 5(d) Communication that is a written communication within the meaning of Rule 405 under the Act is hereinafter called a "Section 5(d) Writing";

(b) No order preventing or suspending the use of any Preliminary Prospectus or any Issuer Free Writing Prospectus has been issued by the Commission, and each Preliminary Prospectus, at the time of filing thereof, conformed in all material respects to the requirements of the Act and the rules and regulations of the Commission thereunder, and did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided, however, that this representation and warranty shall not apply to any statements or omissions made in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter through the representatives expressly for use therein;

(c) For the purposes of this Agreement, the "Applicable Time" is [ ] [a/pm] (Eastern time) on the date of this Agreement. The Pricing Prospectus, as supplemented by the information listed on Schedule II(c) hereto, taken together (collectively, the "Pricing Disclosure Package"), as of the Applicable Time, did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and each Issuer Free Writing Prospectus listed on Schedule II(a) hereto does not conflict with the information contained in the Registration Statement, the Pricing Prospectus or the Prospectus and each such Issuer Free Writing Prospectus and each Section 5(d) Writing listed on Schedule II(b) hereto, each as supplemented by and taken together with the Pricing Disclosure Package, as of the Applicable Time, did not include any untrue statement of a

material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided, however, that this representation and warranty shall not apply to statements or omissions made in an Issuer Free Writing Prospectus or Section 5(d) Writing in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter through the representatives expressly for use therein;

(d) The Registration Statement conforms, and the Prospectus and any further amendments or supplements to the Registration Statement and the Prospectus will conform, in all material respects to the requirements of the Act and the rules and regulations of the Commission thereunder and do not and will not, as of the applicable effective date as to each part of the Registration Statement and any amendment thereto and as of the applicable filing date as to the Prospectus and any amendment or supplement thereto, contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; provided, however, that this representation and warranty shall not apply to any statements or omissions made in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter through the representatives expressly for use therein;

(e) From the time of the initial confidential submission of a registration statement relating to the Shares with the Commission (or, if earlier, the first date on which a Section 5(d) Communication was made) through the date hereof, the Company has been and is an "emerging growth company" as defined in Section 2(a)(19) of the Act (an "Emerging Growth Company");

(f) Neither the Company nor any of its subsidiaries has sustained since the date of the latest audited financial statements included in the Pricing Prospectus any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the Pricing Prospectus; and, since the respective dates as of which information is given in the Registration Statement and the Pricing Prospectus, there has not been any change in the capital stock (other than as a result of (A) the exercise or settlement (including any "net" or "cashless" exercise or settlements) of outstanding stock options, restricted stock units or warrants, (B) the award of stock options or restricted stock units in the ordinary course of business pursuant to the Company's equity incentive plans that are described in the Pricing Prospectus or (C) the repurchase of stock options from employees or consultants terminating their service to the Company) or long-term debt of the Company or any of its subsidiaries or any material adverse change, or any development involving a prospective material adverse change, in or affecting the general affairs, management, financial position, stockholders' equity or results of operations of the Company and its subsidiaries, taken as a whole, otherwise than as set forth or contemplated in the Pricing Prospectus;

(g) The Company and its subsidiaries have good and marketable title in fee simple to all real property and good and marketable title to all personal property owned by them, in each case free and clear of all liens, encumbrances and defects except such as are

described in the Pricing Prospectus or such as do not materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company and its subsidiaries; and any real property and buildings held under lease by the Company and its subsidiaries are held by them under valid, subsisting and enforceable leases (subject to the effects of (A) bankruptcy, insolvency, fraudulent conveyance, fraudulent transfer, reorganization, moratorium or other similar laws relating to or affecting the rights or remedies of creditors generally; (B) the application of general principles of equity (including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing, regardless of whether enforcement is considered in proceedings at law or in equity); and (C) applicable law and public policy with respect to rights to indemnity and contribution) with such exceptions as are not material and do not interfere with the use made and proposed to be made of such property and buildings by the Company and its subsidiaries, taken as a whole;

(h) The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware, with power and authority (corporate and other) to own its properties and conduct its business as described in the Pricing Prospectus, and has been duly qualified as a foreign corporation for the transaction of business and is in good standing under the laws of each other jurisdiction in which it owns or leases properties or conducts any business so as to require such qualification, except where the failure to be so qualified or be in good standing would not individually or in the aggregate have a Material Adverse Effect (as defined below); and each subsidiary of the Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of its jurisdiction of incorporation;

(i) The Company has an authorized capitalization as set forth in the Pricing Prospectus and all of the outstanding shares of capital stock of the Company have been duly and validly authorized and issued and are fully paid and non-assessable and conform to the description of the Stock contained in the Pricing Prospectus and the Prospectus; and all of the outstanding shares of capital stock of each subsidiary of the Company have been duly and validly authorized and issued, are fully paid and non-assessable and (except for directors' qualifying shares) are owned directly or indirectly by the Company, free and clear of all liens, encumbrances, equities or claims;

(j) This Agreement has been duly authorized, executed and delivered by the Company.

(k) The Shares to be issued and sold by the Company to the Underwriters hereunder have been duly and validly authorized and, when issued and delivered against payment therefor as provided herein, will be duly and validly issued and fully paid and non-assessable and will conform to the description of the Stock contained in the Pricing Disclosure Package and the Prospectus;

(l) The issue and sale of the Shares and the compliance by the Company with this Agreement and the consummation of the transactions herein contemplated will not conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, (A) any indenture, mortgage, deed of trust, loan agreement or other

agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any of the property or assets of the Company or any of its subsidiaries is subject, (B) the Certificate of Incorporation or By-laws of the Company, or (C) any statute or any order, rule or regulation of any court or governmental agency or body having jurisdiction over the Company or any of its subsidiaries or any of their properties; except in the case of (A) and (C) for such violations that would not individually or in the aggregate have a Material Adverse Effect; and no consent, approval, authorization, order, registration or qualification of or with any such court or governmental agency or body is required for the issue and sale of the Shares or the consummation by the Company of the transactions contemplated by this Agreement, except for the registration under the Act of the Shares, the approval by the Financial Industry Regulatory Authority ("FINRA") of the underwriting terms and arrangements and such consents, approvals, authorizations, registrations or qualifications as may be required under state securities or Blue Sky laws in connection with the purchase and distribution of the Shares by the Underwriters;

(m) Neither the Company nor any of its subsidiaries is (A) in violation of its Certificate of Incorporation, By-laws or similar organizational documents, (B) in default in the performance or observance of any material obligation, agreement, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement, lease or other agreement or instrument to which it is a party or by which it or any of its properties may be bound, or (C) in violation of any statute or any order, rule or regulation of any court or governmental agency or body having jurisdiction over the Company or any of its subsidiaries or any of their properties except in the case of (B) or (C) for such defaults as would not, individually or in the aggregate, have a Material Adverse Effect;

(n) The statements set forth in the Pricing Prospectus and the Prospectus under the caption "Description of Capital Stock", insofar as they purport to constitute a summary of the terms of the Stock, under the caption "Material US Federal Income and Estate Tax Consequences to Non-US Holders of Our Common Stock", and under the caption "Underwriting", insofar as they purport to describe the provisions of the laws and documents referred to therein, are accurate, complete and fair, in all material respects;

(o) Other than as set forth in the Pricing Prospectus, there are no legal or governmental proceedings pending to which the Company or any of its subsidiaries is a party or of which any property or assets of the Company or any of its subsidiaries is the subject which, if determined adversely to the Company or any of its subsidiaries, would individually or in the aggregate have a material adverse effect on the current or future financial position, stockholders' equity or results of operations of the Company and its subsidiaries, taken as a whole (a "Material Adverse Effect"); and, to the best of the Company's knowledge, no such proceedings are threatened or contemplated by governmental authorities or threatened by others;

(p) The Company is not and, after giving effect to the offering and sale of the Shares and the application of the proceeds thereof, will not be an "investment company", as such term is defined in the Investment Company Act of 1940, as amended (the "Investment Company Act");

(q) At the time of filing the Initial Registration Statement the Company was not and is not an "ineligible issuer," as defined under Rule 405 under the Act;

(r) Deloitte & Touche LLP, which has certified certain financial statements of the Company and its subsidiaries, is an independent registered public accounting firm as required by the Act and the rules and regulations of the Commission thereunder;

(s) The Company maintains a system of internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) that complies with the requirements of the Exchange Act and has been designed by the Company's principal executive officer and principal financial officer, or under their 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 in the United States and, except as disclosed in the Pricing Prospectus, the Company is not aware of any material weaknesses in its internal control over financial reporting (it being understood that, as of the date hereof, the Company is not required to comply with Section 404 of the Sarbanes Oxley Act of 2002);

(t) Except as disclosed in the Pricing Prospectus, since the date of the latest audited financial statements included in the Pricing Prospectus, there has been no change in the Company's internal control over financial reporting that has materially and adversely affected, or is reasonably likely to materially and adversely affect, the Company's internal control over financial reporting;

(u) The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) that comply with the requirements of the Exchange Act; such disclosure controls and procedures have been designed to ensure that material information relating to the Company and its subsidiaries is made known to the Company's principal executive officer and principal financial officer by others within those entities; and such disclosure controls and procedures are effective;

(v) None of the Company, nor any of Nina Biotherapeutics, Inc., Pinta Biotherapeutics, Inc. or Santa Maria Biotherapeutics, Inc. (collectively the "Predecessor Entities"), nor any of their respective subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person associated with or acting on behalf of the Company, the Predecessor Entities or any of their subsidiaries has (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made any direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"), and the rules and regulations thereunder, including, without limitation, by making use of the mails or any means or instrumentality of U.S. interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any

"foreign official" (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office in contravention of the FCPA or (iv) made any bribe, rebate, payoff, influence payment, kickback or other unlawful payment;

(w) The operations of the Company, the Predecessor Entities and their subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions in which the Company and its subsidiaries conduct businesses, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency having jurisdiction over the Company, the Predecessor Entities or any of their subsidiaries (collectively, the "Money Laundering Laws") and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened;

(x) None of the Company or any of its subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company or any of its subsidiaries is currently the subject or the target of any sanctions administered or enforced by the U.S. Government, including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury ("OFAC"), or other relevant sanctions authority (collectively, "Sanctions"), and the Company will not directly or indirectly use the proceeds of the offering of the Securities hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity (i) to fund any activities of or business with any person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or (ii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions;

(y) The Company possesses all certificates, authorizations and permits issued by the appropriate federal, state or foreign regulatory authorities necessary to conduct its business, including, without limitation, from the U.S. Food and Drug Administration ("FDA") and equivalent foreign regulatory authorities, and the Company has not received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit, which, individually or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would reasonably be expected to have a Material Adverse Effect, except as described in the Pricing Prospectus;

(z) The Company has operated and currently is in compliance with all applicable rules, regulations and policies of the FDA, except where the failure to so operate or be in compliance would not reasonably be expected to have a Material Adverse Effect;

(aa) Any clinical trials and human studies conducted by the Company and, to the knowledge of the Company, any clinical trials and human studies conducted on behalf of the Company or in which the Company has participated were and, if still pending, are being conducted in accordance with standard medical and scientific research procedures and any applicable rules, regulations and policies of the jurisdiction in which such trials and studies are being conducted, except where the failure to be so conducted would not reasonably be expected to have a Material Adverse Effect; and

(bb) Except as disclosed in the Pricing Prospectus, the Company and its subsidiaries own, possess or license adequate rights to use all patents, trademarks, service marks, trade names, copyrights, domain names, licenses, approvals, technology and know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures) and other intellectual property rights, including registrations and applications for registration thereof (collectively, "Intellectual Property Rights") used or held to be used for the conduct of the Company's business now conducted and as proposed in the Registration Statement, the Pricing Disclosure Package and the Prospectus to be conducted, except where the failure to own, possess or license such Intellectual Property Rights would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. Except as disclosed in the Pricing Prospectus and to the Company's knowledge: (i) neither the Company nor any of its subsidiaries has materially infringed, misappropriated or otherwise violated the Intellectual Property Rights of any third party, and neither the manufacture of, nor the use or sale of, any of the product candidates described in the Registration Statement, the Pricing Disclosure Package and the Prospectus will materially infringe or otherwise violate the Intellectual Property Rights of any third party; (ii) there are no rights of third parties to any of the Intellectual Property Rights owned by or exclusively licensed to the Company or any of its subsidiaries. Except as would not, individually or in aggregate, if determined adversely to the Company or any of its subsidiaries, reasonably be expected to have a Material Adverse Effect, there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by any third party (i) challenging the Company's or any of its subsidiaries' rights in or to any of the Company's Intellectual Property Rights; (ii) alleging that the Company or any of its subsidiaries have infringed, misappropriated or otherwise violated any Intellectual Property Rights of any third party; or (iii) challenging the validity, scope or enforceability of any Intellectual Property Rights owned or exclusively licensed to the Company or any of its subsidiaries, and in the case of each of (i), (ii) and (iii), the Company is unaware of any facts that would form a reasonable basis for any such action, suit, proceeding or claim. To the Company's knowledge, there is no infringement, misappropriation, breach or default by others of any Intellectual Property Rights owned by or exclusively licensed to the Company or any of its subsidiaries, and all Intellectual Property Rights owned by or licensed to the Company or any of its subsidiaries are valid and enforceable, except as would not reasonably be expected, individually or in aggregate, to have a Material Adverse Effect. The Company and its subsidiaries have at all times taken reasonable steps in accordance with normal industry practice to maintain the confidentiality of all Intellectual Property Rights, the value of which to the Company and to its subsidiaries is contingent upon maintaining the confidentiality thereof. All founders, current and former employees and consultants involved in the development of the Intellectual Property Rights for the Company or any of its subsidiaries have signed confidentiality and invention assignment agreements with the Company or any of its subsidiaries pursuant to which the Company or any of its subsidiaries either (i) has obtained ownership of and is the exclusive owner of such Intellectual Property

Rights, or (ii) has obtained a valid and unrestricted right to exploit such Intellectual Property Rights, sufficient for the conduct of the business as currently conducted and as proposed in the Registration Statement, the Pricing Disclosure Package and the Prospectus to be conducted.

2. Subject to the terms and conditions herein set forth, (a) the Company agrees to issue and sell to each of the Underwriters, and each of the Underwriters agrees, severally and not jointly, to purchase from the Company, at a purchase price per share of $ [ ], the number of Firm Shares set forth opposite the name of such Underwriter in Schedule I hereto and (b) in the event and to the extent that the Underwriters shall exercise the election to purchase Optional Shares as provided below, the Company agrees to issue and sell to each of the Underwriters, and each of the Underwriters agrees, severally and not jointly, to purchase from the Company, at the purchase price per share set forth in clause (a) of this Section 2, that portion of the number of Optional Shares as to which such election shall have been exercised (to be adjusted by you so as to eliminate fractional shares) determined by multiplying such number of Optional Shares by a fraction, the numerator of which is the maximum number of Optional Shares which such Underwriter is entitled to purchase as set forth opposite the name of such Underwriter in Schedule I hereto and the denominator of which is the maximum number of Optional Shares that all of the Underwriters are entitled to purchase hereunder.

The Company hereby grants to the Underwriters the right to purchase at their election up to [ ] Optional Shares, at the purchase price per share set forth in the paragraph above, for the sole purpose of covering sales of shares in excess of the number of Firm Shares, provided that the purchase price per Optional Share shall be reduced by an amount per share equal to any dividends or distributions declared by the Company and payable on the Firm Shares but not payable on the Optional Shares. Any such election to purchase Optional Shares may be exercised only by written notice from the representatives to the Company, given within a period of 30 calendar days after the date of this Agreement and setting forth the aggregate number of Optional Shares to be purchased and the date on which such Optional Shares are to be delivered, as determined by you but in no event earlier than the First Time of Delivery (as defined in Section 4 hereof) or, unless you and the Company otherwise agree in writing, earlier than two or later than ten business days after the date of such notice.

3. Upon the authorization by you of the release of the Firm Shares, the several Underwriters propose to offer the Firm Shares for sale upon the terms and conditions set forth in the Prospectus.

4. (a) The Shares to be purchased by each Underwriter hereunder, in definitive form, and in such authorized denominations and registered in such names as the representatives may request upon at least forty-eight hours' prior notice to the Company shall be delivered by or on behalf of the Company to the representatives through the facilities of the Depository Trust Company ("DTC"), for the account of such Underwriter, against payment by or on behalf of such Underwriter of the purchase price therefor by wire transfer of Federal (same-day) funds to the account specified by the Company to the representatives at least

forty-eight hours in advance. The time and date of such delivery and payment shall be, with respect to the Firm Shares, 9:30 a.m., New York time, on [ ], 2014 or such other time and date as the representatives and the Company may agree upon in writing, and, with respect to the Optional Shares, 9:30 a.m., New York time, on the date specified by the representatives in each written notice given by the representatives of the Underwriters' election to purchase such Optional Shares, or such other time and date as the representatives and the Company may agree upon in writing. Such time and date for delivery of the Firm Shares is herein called the "First Time of Delivery", each such time and date for delivery of the Optional Shares, if not the First Time of Delivery, is herein called the "Second Time of Delivery", and each such time and date for delivery is herein called a "Time of Delivery".

(b) The documents to be delivered at each Time of Delivery by or on behalf of the parties hereto pursuant to Section 8 hereof, including the cross receipt for the Shares and any additional documents requested by the Underwriters pursuant to Section 8(l) hereof will be delivered at the offices of Davis Polk & Wardwell LLP, 1600 El Camino Real, Menlo Park, California 94025 (the "Closing Location"), and the Shares will be delivered at the office of DTC or its designated custodian, all at such Time of Delivery. A meeting will be held at the Closing Location at [__:00] p.m., New York City time, on the New York Business Day next preceding such Time of Delivery, at which meeting the final drafts of the documents to be delivered pursuant to the preceding sentence will be available for review by the parties hereto. For the purposes of this Section 4, "New York Business Day" shall mean each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in New York City are generally authorized or obligated by law or executive order to close.

5. The Company agrees with each of the Underwriters:

(a) To prepare the Prospectus in a form approved by you and to file such Prospectus pursuant to Rule 424(b) under the Act not later than the Commission's close of business on the second business day following the execution and delivery of this Agreement, or, if applicable, such earlier time as may be required by Rule 430A(a)(3) under the Act; to make no further amendment or any supplement to the Registration Statement or the Prospectus prior to the last Time of Delivery which shall be disapproved by you promptly after reasonable notice thereof; to advise you, promptly after it receives notice thereof, of the time when any amendment to the Registration Statement has been filed or becomes effective or any amendment or supplement to the Prospectus has been filed and to furnish you with copies thereof; to file promptly all material required to be filed by the Company with the Commission pursuant to Rule 433(d) under the Act; to advise you, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or other prospectus in respect of the Shares, of the suspension of the qualification of the Shares for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement or the Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary

Prospectus or other prospectus relating to the Shares or suspending any such qualification, to promptly use its reasonable best efforts to obtain the withdrawal of such order;

(b) Promptly from time to time to take such action as you may reasonably request to qualify the Shares for offering and sale under the securities laws of such jurisdictions as you may request and to comply with such laws so as to permit the continuance of sales and dealings therein in such jurisdictions for as long as may be necessary to complete the distribution of the Shares, provided that in connection therewith the Company shall not be required to qualify as a foreign corporation or to file a general consent to service of process in any jurisdiction;

(c) Prior to 10:00 a.m., New York City time, on the New York Business Day next succeeding the date of this Agreement and from time to time, to furnish the Underwriters with electronic copies of the Prospectus, and use its best efforts to furnish the Underwriters with written copies of the Prospectus, in New York City in such quantities as you may reasonably request, and, if the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is required at any time prior to the expiration of nine months after the time of issue of the Prospectus in connection with the offering or sale of the Shares and if at such time any event shall have occurred as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made when such Prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is delivered, not misleading, or, if for any other reason it shall be necessary during such same period to amend or supplement the Prospectus in order to comply with the Act, to notify you and upon your request to prepare and furnish without charge to each Underwriter and to any dealer in securities (whose name and address the Underwriters shall furnish to the Company) as many written and electronic copies as you may from time to time reasonably request of an amended Prospectus or a supplement to the Prospectus which will correct such statement or omission or effect such compliance; and in case any Underwriter is required to deliver a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) in connection with sales of any of the Shares at any time nine months or more after the time of issue of the Prospectus, upon your request but at the expense of such Underwriter, to prepare and deliver to such Underwriter as many written and electronic copies as you may request of an amended or supplemented Prospectus complying with Section 10(a)(3) of the Act;

(d) To make generally available to its securityholders as soon as practicable, but in any event not later than sixteen months after the effective date of the Registration Statement (as defined in Rule 158(c) under the Act), an earnings statement of the Company and its subsidiaries (which need not be audited) complying with Section 11(a) of the Act and the rules and regulations of the Commission thereunder (including, at the option of the Company, Rule 158);

(e) (i) During the period beginning from the date hereof and continuing to and including the date 180 days after the date of the Prospectus (the “Lock-Up Period”), not to (i) offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or

otherwise transfer or dispose of, directly or indirectly, or file with the Commission a registration statement under the Act relating to, any securities of the Company that are substantially similar to the Shares, including but not limited to any options or warrants to purchase shares of Stock or any securities that are convertible into or exchangeable for, or that represent the right to receive, Stock or any such substantially similar securities, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing or (ii) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Stock or any such other securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Stock or such other securities, in cash or otherwise (other than the Shares to be sold hereunder or pursuant to employee stock option plans existing on, or upon the conversion or exchange of convertible or exchangeable securities outstanding as of, the date of this Agreement), without the prior written consent of the representatives; provided, however, that the foregoing restrictions shall not apply to (A) the Shares sold hereunder, (B) the issuance by the Company of shares of Stock upon the exercise of an option or warrant or the conversion of a security outstanding on the date hereof, (C) the issuance by the Company of Stock or other securities convertible or exercisable into Stock, in each case pursuant to the Company's and its subsidiaries stock plans that are described in the Pricing Prospectus, (D) the filing of a registration statement on Form S-8 or any successor form thereto with respect to the registration of securities to be offered under any employee benefit or equity incentive plans of the Company or its subsidiaries, or (E) the issuance of shares of Stock or any security convertible into or exercisable for shares of Stock in connection with transactions that include a commercial relationship (including without limitation, joint ventures, marketing or distribution arrangements, collaboration agreements or intellectual property license agreements) or any acquisition by the Company or any of its subsidiaries of the securities, business, property or other assets of another person or entity or pursuant to any employee benefit plan assumed by the Company in connection with such acquisition, and the issuance of any such securities pursuant to any such agreement; provided further, that, in the case of clause (E), the aggregate number of shares of Stock that the Company may sell or issue or agree to sell or issue shall not exceed 5% of the total number of shares of Stock issued and outstanding immediately following the completion of the transactions contemplated by this Agreement, and provided further that the Company shall cause each recipient of such securities to execute and deliver to you, on or prior to the issuance of such securities, a lock-up letter as described in Section 8(i) hereof (and with the same date of expiration), and enter stop transfer instructions with the Company's transfer agent and registrar of such securities, which the Company agrees it will not waive or amend without the prior written consent of the representatives;

(ii) If the representatives, in their sole discretion, agree to release or waive the restrictions set forth in a lock-up letter described in Section 8(i) hereof, for an officer or director of the Company and provides the Company with notice of the impending release or waiver at least three business days before the effective date of the release or waiver, the Company agrees to announce the impending release or waiver by (A) a press release substantially in the form of Annex I hereto through a

major news service, or (B) any other method that satisfies the obligations described in FINRA Rule 5131(d)(2), at least two business days before the effective date of the release or waiver;

(f) To furnish to its stockholders as soon as practicable after the end of each fiscal year an annual report (including a balance sheet and statements of income, stockholders' equity and cash flows of the Company and its consolidated subsidiaries certified by independent public accountants) and, as soon as practicable after the end of each of the first three quarters of each fiscal year (beginning with the fiscal quarter ending after the effective date of the Registration Statement), to make available to its stockholders consolidated summary financial information of the Company and its subsidiaries for such quarter in reasonable detail; provided, however, that the Company may satisfy the requirements of this subsection by filing such information through the Commission's Electronic Data Gathering, Analysis and Retrieval System ("EDGAR");

(g) During a period of five years from the effective date of the Registration Statement, to furnish to you copies of all reports or other communications (financial or other) furnished to stockholders, and to deliver to you (i) as soon as they are available, copies of any reports and financial statements furnished to or filed with the Commission or any national securities exchange on which any class of securities of the Company is listed; and (ii) such additional information concerning the business and financial condition of the Company as you may from time to time reasonably request (such financial statements to be on a consolidated basis to the extent the accounts of the Company and its subsidiaries are consolidated in reports furnished to its stockholders generally or to the Commission); provided, however, that the Company shall not be required to provide documents that are available through EDGAR;

(h) To use the net proceeds received by it from the sale of the Shares pursuant to this Agreement in the manner specified in the Pricing Prospectus under the caption "Use of Proceeds";

(i) To use its best efforts to list for quotation, subject to official notice of issuance, the Shares on the Nasdaq Stock Market Inc.'s National Market ("NASDAQ");

(j) To file with the Commission such information on Form 10-Q or Form 10-K as may be required by Rule 463 under the Act;

(k) If the Company elects to rely upon Rule 462(b), the Company shall file a Rule 462(b) Registration Statement with the Commission in compliance with Rule 462(b) by 10:00 p.m., Washington, D.C. time, on the date of this Agreement, and the Company shall at the time of filing either pay to the Commission the filing fee for the Rule 462(b) Registration Statement or give irrevocable instructions for the payment of such fee pursuant to Rule 3a(c) of the Commission's Informal and Other Procedures (16 CFR 202.3a);

(l) To promptly notify you if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) completion of the distribution of the Shares within the meaning of the Act and (ii) completion of the 180-day restricted period referred to in Section 5(e) hereof; and

(m) Upon request of any Underwriter, to furnish, or cause to be furnished, to such Underwriter an electronic version of the Company's trademarks, servicemarks and corporate logo for use on the website, if any, operated by such Underwriter for the purpose of facilitating the on-line offering of the Shares (the "License"); provided, however, that the License shall be used solely for the purpose described above, is granted without any fee and may not be assigned or transferred.

6. (a) The Company represents and agrees that, without the prior consent of the representatives, it has not made and will not make any offer relating to the Shares that would constitute a "free writing prospectus" as defined in Rule 405 under the Act; each Underwriter represents and agrees that, without the prior consent of the Company and the representatives, it has not made and will not make any offer relating to the Shares that would constitute a free writing prospectus; any such free writing prospectus the use of which has been consented to by the Company and the representatives is listed on Schedule II(a) or Schedule II(c) hereto;

(b) The Company represents and agrees that (i) it has not engaged in, or authorized any other person to engage in, any Section 5(d) Communications, other than Section 5(d) Communications with the prior consent of the representatives with entities that are qualified institutional buyers as defined in Rule 144A under the Act or institutions that are accredited investors as defined in Rule 501(a) under the Act; and (ii) it has not distributed, or authorized any other person to distribute, any Section 5(d) Writings, other than those distributed with the prior consent of the representatives that are listed on Schedule II(b) hereto; and the Company reconfirms that the Underwriters have been authorized to act on its behalf in engaging in Section 5(d) Communications;

(c) The Company has complied and will comply with the requirements of Rule 433 under the Act applicable to any Issuer Free Writing Prospectus, including timely filing with the Commission or retention where required and legending; and the Company represents that it has satisfied and agrees that it will satisfy the conditions under Rule 433 under the Act to avoid a requirement to file with the Commission any electronic road show;

(d) Each Underwriter represents and agrees that any Section 5(d) Communications undertaken by it were with entities that are qualified institutional buyers as defined in Rule 144A under the Act or institutions that are accredited investors as defined in Rule 501(a) under the Act.

(e) The Company agrees that if at any time following issuance of an Issuer Free Writing Prospectus or Section 5(d) Writing any event occurred or occurs as a result of which such Issuer Free Writing Prospectus or Section 5(d) Writing would conflict with the information in the Registration Statement, the Pricing Prospectus or the Prospectus or would include an untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances then prevailing, not misleading, the Company will give prompt notice thereof to the representatives and, if requested by the representatives, will prepare and furnish without charge to each Underwriter an Issuer Free Writing Prospectus, Section 5(d) Writing or other document which will correct such conflict, statement or omission; provided, however, that this representation and warranty

shall not apply to any statements or omissions in an Issuer Free Writing Prospectus or Section 5(d) Writing made in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter through the representatives expressly for use therein.

7. The Company covenants and agrees with the several Underwriters that the Company will pay or cause to be paid the following: (i) the fees, disbursements and expenses of the Company's counsel and accountants in connection with the registration of the Shares under the Act and all other expenses in connection with the preparation, printing, reproduction and filing of the Registration Statement, any Preliminary Prospectus, any Issuer Free Writing Prospectus and the Prospectus and amendments and supplements thereto and the mailing and delivering of copies thereof to the Underwriters and dealers; (ii) the cost of printing or producing any Agreement among Underwriters, this Agreement, the Blue Sky Memorandum, closing documents (including any compilations thereof) and any other documents in connection with the offering, purchase, sale and delivery of the Shares; (iii) all expenses in connection with the qualification of the Shares for offering and sale under state securities laws as provided in Section 5(b) hereof, including the fees and disbursements of counsel for the Underwriters, up to a maximum of $2,500, in connection with such qualification and in connection with the Blue Sky survey; (iv) all fees and expenses in connection with listing the Shares on the NASDAQ; (v) the filing fees incident to, and the fees and disbursements of counsel for the Underwriters in connection with, any required review by FINRA of the terms of the sale of the Shares, up to a maximum of $30,000; (vi) the cost of preparing stock certificates; if applicable; (vii) the cost and charges of any transfer agent or registrar; and (viii) all other costs and expenses incident to the performance of its obligations hereunder which are not otherwise specifically provided for in this Section. It is understood, however, that, except as provided in this Section, and Sections 9 and 12 hereof, the Underwriters will pay all of their own costs and expenses, including the fees of their counsel, stock transfer taxes on resale of any of the Shares by them, and any advertising expenses connected with any offers they may make. The Company shall bear 50% of all the actual costs and expenses incurred for the use of any private aircraft chartered in connection with the road show and the Underwriters shall bear the remaining 50%.

8. The obligations of the Underwriters hereunder, as to the Shares to be delivered at each Time of Delivery, shall be subject, in their discretion, to the condition that all representations and warranties and other statements of the Company herein are, at and as of such Time of Delivery, true and correct, the condition that the Company shall have performed all of its obligations hereunder theretofore to be performed, and the following additional conditions:

(a) The Prospectus shall have been filed with the Commission pursuant to Rule 424(b) under the Act within the applicable time period prescribed for such filing by the rules and regulations under the Act and in accordance with Section 5(a) hereof; all material required to be filed by the Company pursuant to Rule 433(d) under the Act shall have been filed with the Commission within the applicable time period prescribed for such filing by Rule 433; if the Company has elected to rely upon Rule 462(b) under the Act, the Rule 462(b) Registration Statement shall have become effective by 10:00 p.m., Washington, D.C. time, on

the date of this Agreement; no stop order suspending the effectiveness of the Registration Statement or any part thereof shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission no stop order suspending or preventing the use of the Prospectus or any Issuer Free Writing Prospectus shall have been initiated or threatened by the Commission; and all requests for additional information on the part of the Commission shall have been complied with to your reasonable satisfaction;

(b) Davis Polk & Wardwell LLP, counsel for the Underwriters, shall have furnished to you such written opinion or opinions, dated such Time of Delivery, in form and substance satisfactory to you, and such counsel shall have received such papers and information as they may reasonably request to enable them to pass upon such matters;

(c) (i) Cooley LLP, counsel for the Company, shall have furnished to you their written opinion, dated such Time of Delivery, in form and substance satisfactory to you; and

(ii) Fenwick & West LLP, intellectual property counsel for the Company, shall have furnished to you their written opinion, dated such Time of Delivery, in form and substance satisfactory to you.

(d) On the date of the Prospectus at a time prior to the execution of this Agreement, at 9:30 a.m., New York City time, on the effective date of any post-effective amendment to the Registration Statement filed subsequent to the date of this Agreement and also at each Time of Delivery, Deloitte & Touche LLP shall have furnished to you a letter or letters, dated the respective dates of delivery thereof, in form and substance satisfactory to you;

(e) (i) Neither the Company nor any of its subsidiaries shall have sustained since the date of the latest audited financial statements included in the Pricing Prospectus any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the Pricing Prospectus, and (ii) since the respective dates as of which information is given in the Pricing Prospectus there shall not have been any change in the capital stock (other than as a result of (A) the exercise or settlement (including any “net” or “cashless” exercise or settlements) of outstanding stock options, restricted stock units or warrants, (B) the award of stock options or restricted stock units in the ordinary course of business pursuant to the Company’s equity incentive plans that are described in the Pricing Prospectus or (C) the repurchase of stock from employees or consultants terminating their service to the Company) or long-term debt of the Company or any of its subsidiaries or any change, or any development involving a prospective change, in or affecting the general affairs, management, financial position, consolidated stockholders’ equity or consolidated results of operations of the Company and its subsidiaries, taken as a whole, otherwise than as set forth or contemplated in the Pricing Prospectus, the effect of which, in any such case described in clause (i) or (ii), is in your judgment so material and adverse as to make it impracticable or inadvisable to proceed with the public offering or the delivery of the Shares being delivered at such Time of Delivery on the terms and in the manner contemplated in the Pricing Prospectus;

(f) On or after the Applicable Time (i) no downgrading shall have occurred in the rating accorded the Company's debt securities by any "nationally recognized statistical rating organization", as defined in Section 3(a)(62) of the Exchange Act, and (ii) no such organization shall have publicly announced that it has under surveillance or review, with possible negative implications, its rating of any of the Company's debt securities.

(g) On or after the Applicable Time there shall not have occurred any of the following: (i) a suspension or material limitation in trading in securities generally on the NASDAQ; (ii) a suspension or material limitation in trading in the Company's securities on the NASDAQ; (iii) a general moratorium on commercial banking activities declared by either Federal or New York State authorities or a material disruption in commercial banking or securities settlement or clearance services in the United States; (iv) the outbreak or escalation of hostilities involving the United States or the declaration by the United States of a national emergency or war or (v) the occurrence of any other calamity or crisis or any change in financial, political or economic conditions in the United States or elsewhere, if the effect of any such event specified in clause (iv) or (v) in your judgment makes it impracticable or inadvisable to proceed with the public offering or the delivery of the Shares being delivered at such Time of Delivery on the terms and in the manner contemplated in the Prospectus;

(h) The Shares to be sold at such Time of Delivery shall have been duly listed for quotation on the NASDAQ;

(i) The Company shall have obtained and delivered to the Underwriters executed copies of an agreement from each of the Company's directors and officers and such other holders of the Company's securities as you may require, substantially to the effect set forth in Annex II hereto in form and substance satisfactory to you;

(j) The Company shall have complied with the provisions of Section 5(c) hereof with respect to the furnishing of prospectuses on the New York Business Day next succeeding the date of this Agreement; and

(k) The Company shall have furnished or caused to be furnished to you at such Time of Delivery certificates of officers of the Company satisfactory to you as to the accuracy of the representations and warranties of the Company herein at and as of such Time of Delivery, as to the performance by the Company of all of its obligations hereunder to be performed at or prior to such Time of Delivery, as to such other matters as you may reasonably request, and as to the matters set forth in subsections (a) and (e) of this Section 8.

9. (a) The Company will indemnify and hold harmless each Underwriter against any losses, claims, damages or liabilities, joint or several, to which such Underwriter may become subject, under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, any Issuer Free Writing Prospectus or any "issuer information" filed or required to be filed pursuant to Rule 433(d) under the Act, or any Section 5(d) Writing, or arise out of or are

based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse each Underwriter for any legal or other expenses reasonably incurred by such Underwriter in connection with investigating or defending any such action or claim as such expenses are incurred; provided, however, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, or any Section 5(d) Writing, in reliance upon and in conformity with written information furnished to the Company by any Underwriter through the representatives expressly for use therein.

(b) Each Underwriter will indemnify and hold harmless the Company against any losses, claims, damages or liabilities to which the Company may become subject, under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, or any Section 5(d) Writing, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, or any Section 5(d) Writing, in reliance upon and in conformity with written information furnished to the Company by such Underwriter through the representatives expressly for use therein; and will reimburse the Company for any legal or other expenses reasonably incurred by the Company in connection with investigating or defending any such action or claim as such expenses are incurred.

(c) Promptly after receipt by an indemnified party under subsection (a) or (b) of this Section 9 of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under such subsection, notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party shall not relieve it from any liability which it may have to any indemnified party otherwise than under such subsection. In case any such action shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party (who shall not, except with the consent of the indemnified party, be counsel to the indemnifying party), and, after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party shall not be liable to such indemnified party under such subsection for any legal expenses of other counsel or any

other expenses, in each case subsequently incurred by such indemnified party, in connection with the defense thereof other than reasonable costs of investigation. No indemnifying party shall, without the written consent of the indemnified party, effect the settlement or compromise of, or consent to the entry of any judgment with respect to, any pending or threatened action or claim in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified party is an actual or potential party to such action or claim) unless such settlement, compromise or judgment (i) includes an unconditional release of the indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act, by or on behalf of any indemnified party.

(d) If the indemnification provided for in this Section 9 is unavailable to or insufficient to hold harmless an indemnified party under subsection (a) or (b) above in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Shares. If, however, the allocation provided by the immediately preceding sentence is not permitted by applicable law or if the indemnified party failed to give the notice required under subsection (d) above, then each indemnifying party shall contribute to such amount paid or payable by such indemnified party in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions in respect thereof), as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Prospectus. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Underwriters on the other and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this subsection (d) were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this subsection (d). The amount paid or payable by an indemnified party as a result of the losses, claims, damages or liabilities (or actions in respect thereof) referred to above in this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this subsection (d), no Underwriter shall be required to contribute any amount in excess of the amount by which the

total price at which the Shares underwritten by it and distributed to the public were offered to the public exceeds the amount of any damages which such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this subsection (d) to contribute are several in proportion to their respective underwriting obligations and not joint.

(e) The obligations of the Company under this Section 9 shall be in addition to any liability which the Company may otherwise have and shall extend, upon the same terms and conditions, to each officer, director, employee and agent of each Underwriter and each person, if any, who controls any Underwriter within the meaning of the Act and each broker-dealer affiliate of any Underwriter; and the obligations of the Underwriters under this Section 9 shall be in addition to any liability which the respective Underwriters may otherwise have and shall extend, upon the same terms and conditions, to each officer and director of the Company (including any person who, with his or her consent, is named in the Registration Statement as about to become a director of the Company) and to each person, if any, who controls the Company within the meaning of the Act.

10. (a) If any Underwriter shall default in its obligation to purchase the Shares which it has agreed to purchase hereunder at a Time of Delivery, you may in your discretion arrange for you or another party or other parties to purchase such Shares on the terms contained herein. If within thirty-six hours after such default by any Underwriter you do not arrange for the purchase of such Shares, then the Company shall be entitled to a further period of thirty-six hours within which to procure another party or other parties satisfactory to you to purchase such Shares on such terms. In the event that, within the respective prescribed periods, you notify the Company that you have so arranged for the purchase of such Shares, or the Company notifies you that it has so arranged for the purchase of such Shares, you or the Company shall have the right to postpone such Time of Delivery for a period of not more than seven days, in order to effect whatever changes may thereby be made necessary in the Registration Statement or the Prospectus, or in any other documents or arrangements, and the Company agrees to file promptly any amendments or supplements to the Registration Statement or the Prospectus which in your opinion may thereby be made necessary. The term "Underwriter" as used in this Agreement shall include any person substituted under this Section with like effect as if such person had originally been a party to this Agreement with respect to such Shares.

(b) If, after giving effect to any arrangements for the purchase of the Shares of a defaulting Underwriter or Underwriters by you, the Company as provided in subsection (a) above, the aggregate number of such Shares which remains unpurchased does not exceed one-eleventh of the aggregate number of all the Shares to be purchased at such Time of Delivery, then the Company shall have the right to require each non-defaulting Underwriter to purchase the number of Shares which such Underwriter agreed to purchase hereunder at such Time of Delivery and, in addition, to require each non-defaulting Underwriter to purchase its pro rata share (based on the number of Shares which such Underwriter agreed to purchase hereunder) of the Shares of such defaulting Underwriter or Underwriters for which such arrangements have not been made; but nothing herein shall relieve a defaulting Underwriter from liability for its default.

(c) If, after giving effect to any arrangements for the purchase of the Shares of a defaulting Underwriter or Underwriters by you, the Company as provided in subsection (a) above, the aggregate number of such Shares which remains unpurchased exceeds one-eleventh of the aggregate number of all of the Shares to be purchased at such Time of Delivery, or if the Company shall not exercise the right described in subsection (b) above to require non-defaulting Underwriters to purchase Shares of a defaulting Underwriter or Underwriters, then this Agreement or, with respect to the Second Time of Delivery, the obligations of the Underwriters to purchase and of the Company to sell the Optional Shares shall thereupon terminate, without liability on the part of any non-defaulting Underwriter, the Company, except for the expenses to be borne by the Company and the Underwriters as provided in Section 7 hereof and the indemnity and contribution agreements in Section 9 hereof; but nothing herein shall relieve a defaulting Underwriter from liability for its default.

11. The respective indemnities, agreements, representations, warranties and other statements of the Company and the several Underwriters, as set forth in this Agreement or made by or on behalf of them, respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation (or any statement as to the results thereof) made by or on behalf of any Underwriter or any controlling person of any Underwriter, or the Company, or any officer or director or controlling person of the Company, and shall survive delivery of and payment for the Shares.

12. If this Agreement shall be terminated pursuant to Section 10 hereof, the Company shall not then be under any liability to any Underwriter except as provided in Sections 7 and 9 hereof; but, if for any other reason any Shares are not delivered by or on behalf of the Company as provided herein, the Company will reimburse the Underwriters through you for all documented reasonable out-of-pocket expenses approved in writing by you, including fees and disbursements of counsel, reasonably incurred by the Underwriters in making preparations for the purchase, sale and delivery of the Shares not so delivered, but the Company shall then be under no further liability to any Underwriter except as provided in Sections 7 and 9 hereof.

13. In all dealings hereunder, you shall act on behalf of each of the Underwriters, and the parties hereto shall be entitled to act and rely upon any statement, request, notice or agreement on behalf of any Underwriter made or given by you jointly or by the representatives.

All statements, requests, notices and agreements hereunder shall be in writing, and if to the Underwriters shall be delivered or sent by mail, telex or facsimile transmission to the representatives at Goldman, Sachs & Co., 200 West Street, New York, New York 10282, Attention: Registration Department and at Citigroup Global Markets Inc., 388 Greenwich Street, New York, New York 10013, Attention: General Counsel; if to the Company shall be delivered or sent by mail, telex or facsimile transmission to the address of the Company set forth on the cover of the Registration Statement, Attention: Secretary; and if to any stockholder that has delivered a lock-up letter described in Section 8(j) hereof shall be

delivered or sent by mail to his, her or its respective address as such stockholder provides in writing to the Company; provided, however, that any notice to an Underwriter pursuant to Section 9(c) hereof shall be delivered or sent by mail, telex or facsimile transmission to such Underwriter at its address set forth in its Underwriters' Questionnaire or telex constituting such Questionnaire, which address will be supplied to the Company by you upon request; provided further that notices under subsection 5(e) shall be in writing, and if to the Underwriters shall be delivered or sent by mail, telex or facsimile transmission to the representatives at Goldman, Sachs & Co., 200 West Street, New York, New York 10282, Attention: Control Room and at Citigroup Global Markets Inc., 388 Greenwich Street, New York, New York 10013, Attention: General Counsel. Any such statements, requests, notices or agreements shall take effect upon receipt thereof.

In accordance with the requirements of the USA Patriot Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)), the Underwriters are required to obtain, verify and record information that identifies their respective clients, including the Company, which information may include the name and address of their respective clients, as well as other information that will allow the Underwriters to properly identify their respective clients.

14. This Agreement shall be binding upon, and inure solely to the benefit of, the Underwriters, the Company and, to the extent provided in Sections 9 and 11 hereof, the officers and directors of the Company and each person who controls the Company or any Underwriter, and their respective heirs, executors, administrators, successors and assigns, and no other person shall acquire or have any right under or by virtue of this Agreement. No purchaser of any of the Shares from any Underwriter shall be deemed a successor or assign by reason merely of such purchase.

15. Time shall be of the essence of this Agreement. As used herein, the term "business day" shall mean any day when the Commission's office in Washington, D.C. is open for business.

16. The Company acknowledges and agrees that (i) the purchase and sale of the Shares pursuant to this Agreement is an arm's-length commercial transaction between the Company on the one hand, and the several Underwriters, on the other, (ii) in connection therewith and with the process leading to such transaction each Underwriter is acting solely as a principal and not the agent or fiduciary of the Company, (iii) no Underwriter has assumed an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) or any other obligation to the Company except the obligations expressly set forth in this Agreement and (iv) the Company has consulted its own legal and financial advisors to the extent it deemed appropriate. The Company agrees that it will not claim that the Underwriters, or any of them, has rendered advisory services of any nature or respect, or owes a fiduciary or similar duty to the Company in connection with such transaction or the process leading thereto.

17. This Agreement supersedes all prior agreements and understandings (whether written or oral) between the Company and the Underwriters, or any of them, with respect to the subject matter hereof.

18. THIS AGREEMENT AND ANY MATTERS RELATED TO THIS TRANSACTION SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO PRINCIPLES OF CONFLICT OF LAWS THAT WOULD RESULT IN THE APPLICATION OF ANY LAW OTHER THAN THE LAWS OF THE STATE OF NEW YORK. The Company agrees that any suit or proceeding arising in respect of this agreement or our engagement will be tried exclusively in the U.S. District Court for the Southern District of New York or, if that court does not have subject matter jurisdiction, in any state court located in The City and County of New York and the Company agrees to submit to the jurisdiction of, and to venue in, such courts.

19. The Company and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

20. This Agreement may be executed by any one or more of the parties hereto in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same instrument.

21. Notwithstanding anything herein to the contrary, the Company is authorized to disclose to any persons the U.S. federal and state income tax treatment and tax structure of the potential transaction and all materials of any kind (including tax opinions and other tax analyses) provided to the Company relating to that treatment and structure, without the Underwriters imposing any limitation of any kind. However, any information relating to the tax treatment and tax structure shall remain confidential (and the foregoing sentence shall not apply) to the extent necessary to enable any person to comply with securities laws. For this purpose, “tax structure” is limited to any facts that may be relevant to that treatment.

If the foregoing is in accordance with your understanding, please sign and return to us five counterparts hereof, and upon the acceptance hereof by you, on behalf of each of the Underwriters, this letter and such acceptance hereof shall constitute a binding agreement among each of the Underwriters and the Company. It is understood that your acceptance of this letter on behalf of each of the Underwriters is pursuant to the authority set forth in a form of Agreement among Underwriters, the form of which shall be submitted to the Company for examination, upon request, but without warranty on your part as to the authority of the signers thereof.

Very truly yours,

ATARA BIOTHERAPEUTICS, INC.

By: _____
Name:
Title:

GOLDMAN, SACHS & CO.

By: _____
Name:
Title:

CITIGROUP GLOBAL MARKETS INC.

By: _____
Name:
Title:

On behalf of each of the Underwriters

SCHEDULE I

Underwriter	Total Number of Firm Shares to be Purchased	Number of Optional Shares to be Purchased if Maximum Option Exercised
Goldman, Sachs & Co.		
Citigroup Global Markets Inc.		
Jefferies LLC.		
Total		

SCHEDULE II

(a) Issuer Free Writing Prospectuses not included in the Pricing Disclosure Package

[None]

(b) Additional documents incorporated by reference

[None]

(c) Information other than the Pricing Prospectus that comprise the Pricing Disclosure Package

The initial public offering price per share for the Shares is $ [ ]

The number of Shares purchased by the Underwriters is [ ].

[Add any other pricing disclosure.]

ANNEX I

FORM OF PRESS RELEASE

Atara Biotherapeutics, Inc.
[Date]

Atara Biotherapeutics, Inc. (the "Company") announced today that Goldman, Sachs & Co. and Citigroup Global Markets Inc., the lead book-running managers in the recent public sale of shares of the Company's common stock, is [waiving] [releasing] a lock-up restriction with respect to shares of the Company's common stock held by [certain officers or directors] [an officer or director] of the Company. The [waiver] [release] will take effect on , 20 , and the shares may be sold on or after such date.

This press release is not an offer for sale of the securities in the United States or in any other jurisdiction where such offer is prohibited, and such securities may not be offered or sold in the United States absent registration or an exemption from registration under the United States Securities Act of 1933, as amended.

ANNEX II

[FORM OF LOCK UP AGREEMENT]

Atara Biotherapeutics, Inc.

Lock-Up Agreement

_____, 2014

Goldman, Sachs & Co.
Citigroup Global Markets Inc.

c/o Goldman, Sachs & Co.
200 West Street
New York, NY 10282-2198

c/o Citigroup Global Markets Inc.
388 Greenwich Street
New York, NY 10013

Re: Atara Biotherapeutics, Inc. - Lock-Up Agreement

Ladies and Gentlemen:

The undersigned understands that you, as representatives (the "Representatives"), propose to enter into an underwriting agreement (the "Underwriting Agreement") on behalf of the several underwriters to be named in Schedule I to such agreement (collectively, the "Underwriters"), with Atara Biotherapeutics, Inc., a Delaware corporation (the "Company"), providing for a public offering of the common stock, par value $0.0001 per share, (the "Common Stock") of the Company (the "Shares") pursuant to a Registration Statement on Form S-1 (the "Registration Statement") to be filed with the Securities and Exchange Commission (the "SEC").

In consideration of the agreement by the Underwriters to offer and sell the Shares, and of other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the undersigned agrees that, during the period specified in the following paragraph (the "Lock-Up Period"), the undersigned will not offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose of any shares of Common Stock of the Company, or any options or warrants to purchase any shares of Common Stock of the Company, or any securities convertible into, exchangeable for or that represent the right to receive shares of Common Stock of the Company (including any preferred shares), whether now owned or hereafter acquired, owned directly by the

undersigned (including holding as a custodian) or with respect to which the undersigned has beneficial ownership within the rules and regulations of the SEC (collectively the "Undersigned's Shares"). The foregoing restriction is expressly agreed to preclude the undersigned from engaging in any hedging or other transaction which is designed to or which reasonably could be expected to lead to or result in a sale or disposition of the Undersigned's Shares even if such Shares would be disposed of by someone other than the undersigned. Such prohibited hedging or other transactions would include without limitation any short sale or any purchase, sale or grant of any right (including without limitation any put or call option) with respect to any of the Undersigned's Shares or with respect to any security that includes, relates to, or derives any significant part of its value from such Shares. If the undersigned is an officer or director of the issuer, the undersigned further agrees that the foregoing provisions shall be equally applicable to any issuer-directed Shares the undersigned may purchase in the offering.

The Lock-Up Period will commence on the date of this Lock-Up Agreement and continue for 180 days after the public offering date set forth on the final prospectus used to sell the Shares (the "Public Offering Date") pursuant to the Underwriting Agreement.

If the undersigned is an officer or director of the Company, (i) the Representatives agree that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of shares of Common Stock, the Representatives will notify the Company of the impending release or waiver, and (ii) the Company has agreed or will agree in the Underwriting Agreement to announce the impending release or waiver by press release through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by the Representatives hereunder to any such officer or director shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (a) the release or waiver is effected solely to permit a transfer not for consideration and (b) the transferee has agreed in writing to be bound by the same terms described in this letter to the extent and for the duration that such terms remain in effect at the time of the transfer.

Notwithstanding the foregoing, the undersigned may (1) transfer the Undersigned's Shares:

(i) as a *bona fide* gift or gifts,

(ii) to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned, or if the undersigned is a trust, to any beneficiary (including such beneficiary's estate) of the undersigned,

(iii) by will or under the laws of descent,

(iv) to affiliates (within the meaning set forth in Rule 405 as promulgated by the SEC under the Securities Act of 1933, as amended, and including subsidiaries of the

undersigned if the undersigned is a corporation), limited partners, general partners, limited liability company members or stockholders of the undersigned to the extent that the undersigned is a partnership, limited liability company or corporation,

(v) any transfer pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction made to all holders of the Shares involving a change in control of the Company,

(vi) in connection with a sale of any of the Undersigned's Shares acquired in open market transactions after the Public Offering Date,

(vii) to the Company (a) as forfeitures to satisfy tax withholding and remittance obligations of the undersigned in connection with the vesting, settlement or exercise of equity awards granted pursuant to an employee benefit plan described in the Registration Statement, or (b) in connection with the repurchase of shares of Common Stock issued pursuant to an employee benefit plan described in the Registration Statement or pursuant to the agreements pursuant to which such shares were issued as disclosed in the Registration Statement, or

(viii) with the prior written consent of the Representatives on behalf of the Underwriters;

provided, that in the case of (i), (ii), (iii), (iv) and (v) above, it shall be a condition to the transfer that the donee, trustee, legatee, heir, distribute or other transferee, as the case may be, agrees to be bound in writing by the restrictions set forth herein; provided, further, that in the case of (i), (ii), (iii) and (iv) above, (a) such transfers are not required to be reported with the SEC on Form 4 in accordance with Section 16 of the Exchange Act of 1934, as amended (the "Exchange Act") during the Lock-Up Period, (b) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers during the Lock-Up Period, and (c) such transfers shall not involve a disposition for value; provided, further, that in the case of (vi) above, (a) such transfers are not required to be reported with the SEC on Form 4 in accordance with Section 16 of the Exchange during the Lock-Up Period and (b) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers during the Lock-Up Period; or (2) exercise any stock options issued pursuant to the Company's equity incentive plans or warrants (including, in each case, by way of net exercise, but for the avoidance of doubt, excluding all manners of exercise that would involve a sale of any securities relating to such options or warrants, whether to cover the applicable aggregate exercise price, withholding tax obligations or otherwise), which equity incentive plans and stock options or warrants are described in the Registration Statement; provided, that any securities received upon such exercise will also be subject to this Lock-Up Agreement. For purposes of this Lock-Up Agreement, "immediate family" shall mean any relationship by blood, marriage or adoption, not more remote than first cousin. The undersigned now has, and, except as contemplated by clause (1) and (2) above, for the duration of this Lock-Up Agreement will have, good and marketable title to the Undersigned's Shares, free and clear of all liens, encumbrances, and claims whatsoever. The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of the Undersigned's Shares except in compliance with the foregoing restrictions.

The restrictions set forth in this Lock-Up Agreement shall not apply to the conversion of outstanding shares of preferred stock of the Company into shares of Common Stock provided, that any securities received upon such conversion will also be subject to this Lock-Up Agreement. In addition, nothing in this Lock-Up Agreement shall preclude the establishment of a new trading plan meeting the requirements of Rule 10b5-1 under the Exchange Act; provided, that (i) no public announcement or filing under the Exchange Act regarding the establishment of such plan shall be required during the Lock-Up Period, (ii) the undersigned does not otherwise voluntarily effect any public filing or report regarding the establishment of such plan during the Lock-Up Period and (iii) no sales are made during the Lock-Up Period pursuant to that new plan.

The undersigned understands that the Company and the Underwriters are relying upon this Lock-Up Agreement in proceeding toward consummation of the offering. The undersigned further understands that this Lock-Up Agreement is irrevocable and shall be binding upon the undersigned's heirs, legal representatives, successors, and assigns.

It is understood that, if (i) the Company notifies the Representatives, in writing, prior to the execution of the Underwriting Agreement, that it does not intend to proceed with the proposed public offering of Common Stock, (ii) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Shares to be sold thereunder, or (iii) the proposed public offering of Shares shall not have been completed by August 31, 2014 (provided, that the Company may by written notice to the undersigned prior to August 31, 2014 extend such date for a period of up to an additional three months), this Lock-Up Agreement shall immediately be terminated and the undersigned shall be released from all obligations under this Lock-Up Agreement.

[Signature page follows]

Very truly yours,

Exact Name of Shareholder

Authorized Signature

Title

[Signature page to Atara Biotherapeutics, Inc. Lock-Up Agreement]

Exhibit 3.1

RESTATED CERTIFICATE OF INCORPORATION
OF
ATARA BIOTHERAPEUTICS, INC.

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Atara Biotherapeutics, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "**General Corporation Law**"),

DOES HEREBY CERTIFY:

FIRST: That the name of this corporation is Atara Biotherapeutics, Inc. and that this corporation was originally incorporated pursuant to the General Corporation Law on August 22, 2012 under the name Atara, Inc.

SECOND: That the Board of Directors of this corporation duly adopted resolutions proposing to amend and restate the certificate of incorporation of this corporation, as amended, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the certificate of incorporation of this corporation, as amended, be amended and restated in its entirety as follows:

ARTICLE I

The name of this corporation is Atara Biotherapeutics, Inc.

ARTICLE II

The address of the registered office of this corporation in the State of Delaware is 3500 South DuPont Highway, in the City of Dover, County of Kent, 19901. The name of its registered agent at such address is Incorporating Services, Ltd.

ARTICLE III

The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

ARTICLE IV

A. Authorization of Stock. This corporation is authorized to issue two classes of stock to be designated, respectively, common stock and preferred stock. The total number of

shares that this corporation is authorized to issue is Fifty-Two Million Two Hundred Ninety-Eight Thousand Five Hundred Twenty-Seven (52,298,527). The total number of shares of common stock authorized to be issued is Forty Million (40,000,000), par value $0.0001 per share (the "**Common Stock**"). The total number of shares of preferred stock authorized to be issued is Twelve Million Two Hundred Ninety-Eight Thousand Five Hundred Twenty-Seven (12,298,527), par value $0.0001 per share (the "**Preferred Stock**"), of which Six Million Five Hundred Thirty-Two Thousand Four Hundred Forty-One (6,532,441) shares are designated as "**Series B Preferred Stock**", Six Hundred Fifteen Thousand Three Hundred Eighty-Four (615,384) shares are designated as "**Series A-1 Preferred Stock**" and Five Million One Hundred Fifty Thousand Seven Hundred Two (5,150,702) shares are designated as "**Series A Preferred Stock**".

B. Reverse Stock Split. Effective immediately upon the filing of this Amended and Restated Certificate of Incorporation, (i) each one and three tenths (1.3) outstanding shares of Common Stock shall be combined and reconstituted as one (1) share of outstanding Common Stock, (ii) each one and three tenths (1.3) outstanding shares of Series A Preferred Stock shall be combined and reconstituted as one (1) share of outstanding Series A Preferred Stock, (iii) each one and three tenths (1.3) outstanding shares of Series A-1 Preferred Stock shall be combined and reconstituted as one (1) share of outstanding Series A-1 Preferred Stock, and (iv) each one and three tenths (1.3) outstanding shares of Series B Preferred Stock shall be combined and reconstituted as one (1) share of outstanding Series B Preferred Stock (collectively, the "**Reverse Stock Split**"); provided, however, if the Reverse Stock Split would result in the issuance of any fractional shares, the Corporation shall, in lieu of issuing any such fractional share, pay the holder thereof an amount in cash (without interest or deduction) equal to the fair market value of such fractional share on the effective date of the Reverse Stock Split as determined in good faith by the Board of Directors of this corporation (the "**Board of Directors**"). The Reverse Stock Split shall occur whether or not the certificates representing such shares of Common Stock or Preferred Stock are surrendered to the Corporation or its transfer agent; provided, however, that the Corporation shall not be obligated to issue certificates evidencing the shares resulting from the Reverse Stock Split unless either the certificates evidencing such shares of Common Stock or Preferred Stock are delivered to the Corporation or its transfer agent as provided above, or the holder notifies the Corporation or its transfer agent that such certificates have been lost, stolen or destroyed and executes an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection with such certificates. Notwithstanding the foregoing, the par value of each share of the Corporation's outstanding Common Stock and Preferred Stock will not be adjusted in connection with the Reverse Stock Split. All share amounts, dollar amounts and other provisions in this Amended and Restated Certificate of Incorporation have been appropriately adjusted to reflect the Reverse Stock Split, and no further adjustments shall be made to the share amounts, dollar amounts and other provisions, except in the case of any stock splits, reverse splits, recapitalization and the like occurring after the effective time of the Reverse Stock Split.

C. Rights, Preferences and Restrictions of Preferred Stock. The rights, preferences, privileges and restrictions granted to and imposed on the Preferred Stock are as set forth below in this Article IV(C).

1. Dividend Provisions.

(a) The holders of shares of Preferred Stock shall be entitled to receive dividends, out of any assets legally available therefor, prior and in preference to any declaration or payment of any dividend (payable other than in Common Stock or other securities and rights convertible into or entitling the holder thereof to receive, directly or indirectly, additional shares of Common Stock) on the Common Stock of this corporation, at the applicable Dividend Rate (as defined below), payable when, as and if declared by the Board of Directors. Such dividends shall not be cumulative. "**Dividend Rate**" shall mean 8% per annum of the applicable Price (as defined below) for each share of Series B Preferred Stock, 8% per annum of the applicable Price for each share of Series A Preferred Stock and an equivalent per share rate for each share of Series A-1 Preferred Stock (in each case, as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like, but excluding the Reverse Stock Split).

(b) After payment of such dividends, any additional dividends or distributions shall be distributed among all holders of Common Stock and Preferred Stock in proportion to the number of shares of Common Stock that would be held by each such holder if all shares of Preferred Stock were converted to Common Stock at the then effective Conversion Rate (as defined herein).

2. Liquidation Preference.

(a) In the event of any Liquidation Event (as defined below), either voluntary or involuntary:

(i) the holders of outstanding shares of Series B Preferred Stock shall be entitled to receive out of the proceeds or assets of this corporation available for distribution to its stockholders (the "**Proceeds**"), prior and in preference to any distribution of the Proceeds of such Liquidation Event to the holders of Series A Preferred Stock, Series A-1 Preferred Stock or Common Stock by reason of their ownership thereof, an amount per share equal to the sum of the applicable Price for such share of Series B Preferred Stock, plus declared but unpaid dividends on such share. If, upon the occurrence of such event, the Proceeds thus distributed among the holders of the Series B Preferred Stock shall be insufficient to permit the payment to such holders of the full aforesaid preferential amount, then the entire Proceeds legally available for distribution shall be distributed ratably among the holders of the Series B Preferred Stock in proportion to the full preferential amount that each such holder is otherwise entitled to receive pursuant to this subsection (a)(i); and

(ii) upon completion of the distribution required by subsection (a)(i) of this Section 2, the holders of the Series A Preferred Stock and Series A-1 Preferred Stock shall be entitled to receive, on a pari passu basis and prior and in preference to any distribution of any of the assets of this corporation to the holders of the Common Stock by reason of their ownership thereof, (A) for the holders of Series A Preferred Stock, an amount per share equal to the sum of the applicable Price for such share of Series A Preferred Stock, plus declared but unpaid dividends on such share, and (B) for the holders of Series A-1 Preferred Stock, an amount per share equal to $3,000,000 divided by the total number of outstanding shares of Series A-1 Preferred Stock as of the date of the Liquidation Event, plus declared but

unpaid dividends on such share of Series A-1 Preferred Stock. If, upon the occurrence of such Liquidation Event, the Proceeds thus distributed among the holders of the Series A Preferred Stock and Series A-1 Preferred Stock shall be insufficient to permit the payment to such holders of the full aforesaid preferential amounts, then the entire remaining Proceeds legally available for distribution shall be distributed ratably among the holders of the Series A Preferred Stock and Series A-1 Preferred Stock in proportion to the full preferential amount that each such holder is otherwise entitled to receive under this subsection (a)(ii).

(b) Upon completion of the distributions required by subsections (a)(i) and (a)(ii) of this Section 2, all of the remaining Proceeds available for distribution to stockholders shall be distributed among the holders of Common Stock pro rata based on the number of shares of Common Stock held by each.

(c) For purposes of this Restated Certificate of Incorporation, "**Price**" shall mean (i) for the Series B Preferred Stock, $7.96029 per share (as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like), (ii) for the Series A Preferred Stock, $3.90 per share (as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like, but excluding the Reverse Stock Split) and (iii) for the Series A-1 Preferred Stock, an amount per share that equals $3,000,000 divided by the total number of outstanding shares of Series A-1 Preferred Stock as of the date of the Liquidation Event.

(d) Notwithstanding the above, for purposes of determining the amount each holder of shares of Preferred Stock is entitled to receive with respect to a Liquidation Event, each such holder of shares of a series of Preferred Stock shall be deemed to have converted (regardless of whether such holder actually converted) such holder's shares of such series into shares of Common Stock immediately prior to the Liquidation Event if, as a result of an actual conversion, such holder would receive, in the aggregate, an amount greater than the amount that would be distributed to such holder if such holder did not convert such series of Preferred Stock into shares of Common Stock. If any such holder shall be deemed to have converted shares of Preferred Stock into Common Stock pursuant to this paragraph, then such holder shall not be entitled to receive any distribution that would otherwise be made to holders of Preferred Stock that have not converted (or have not been deemed to have converted) into shares of Common Stock.

(e)(i) For purposes of this Section 2, a "**Liquidation Event**" shall include (A) the closing of the sale, transfer or other disposition of all or substantially all of this corporation's assets or a worldwide exclusive license of all or substantially all of the intellectual property of this corporation in all or substantially all fields of use, (B) the consummation of the merger or consolidation of this corporation with or into another entity (except a merger or consolidation in which the holders of capital stock of this corporation immediately prior to such merger or consolidation continue to hold at least 50% of the voting power of the capital stock of this corporation or the surviving or acquiring entity), (C) the closing of the transfer (whether by merger, consolidation or otherwise), in one transaction or a series of related transactions, to a person or group of affiliated persons (other than an underwriter of this corporation's securities), of this corporation's securities if, after such closing, such person or group of affiliated persons would hold 50% or more of the outstanding voting stock of this corporation (or the surviving or

acquiring entity) or (D) a liquidation, dissolution or winding up of this corporation; provided, however, that a transaction shall not constitute a Liquidation Event if its sole purpose is to change the state of this corporation's incorporation or to create a holding company that will be owned in substantially the same proportions by the persons who held this corporation's securities immediately prior to such transaction. Notwithstanding the prior sentence, the issuance by this corporation of shares of Common Stock and Preferred Stock pursuant to that certain Share Exchange Agreement of the corporation dated on or about the Filing Date (as defined below) shall not be deemed a "Liquidation Event." The treatment of any particular transaction or series of related transactions as a Liquidation Event may be waived by the vote or written consent of the holders of a majority of the outstanding Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis).

(ii) In any Liquidation Event, if the Proceeds received by this corporation or its stockholders is other than cash, its value will be deemed its fair market value. Any securities shall be valued as follows:

(A) Securities not subject to investment letter or other similar restrictions on free marketability (which are covered by (B) below):

(1) If traded on a securities exchange, the value shall be deemed to be the average of the closing prices of the securities on such exchange over the twenty (20) trading-day period ending three (3) trading days prior to the closing of the Liquidation Event;

(2) If actively traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the twenty (20) trading-day period ending three (3) trading days prior to the closing of the Liquidation Event; and

(3) If there is no active public market, the value shall be the fair market value thereof, as mutually determined by this corporation and the holders of a majority of the voting power of all then outstanding shares of Preferred Stock (voting together as a single class and not as separate series and on an as-converted basis).

(B) The method of valuation of securities subject to investment letter or other restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall be to make an appropriate discount from the market value determined as above in (A) (1), (2) or (3) to reflect the approximate fair market value thereof, as mutually determined by this corporation and the holders of a majority of the voting power of all then outstanding shares of such Preferred Stock (voting together as a single class and not as separate series and on an as-converted basis).

(C) The foregoing methods for valuing non-cash consideration to be distributed in connection with a Liquidation Event shall, with the appropriate approval of the definitive agreements governing such Liquidation Event by the stockholders under the General Corporation Law and Section 6 of this Article IV(C), be superseded by the determination of such value set forth in the definitive agreements governing such Liquidation Event.

(iii) In the event the requirements of this Section 2 are not complied with, this corporation shall forthwith either:

(A) cause the closing of such Liquidation Event to be postponed until such time as the requirements of this Section 2 have been complied with; or

(B) cancel such transaction, in which event the rights, preferences and privileges of the holders of the Preferred Stock shall revert to and be the same as such rights, preferences and privileges existing immediately prior to the date of the first notice referred to in subsection 2(d)(iv) hereof.

(iv) This corporation shall give each holder of record of Preferred Stock written notice of such impending Liquidation Event not later than twenty (20) days prior to the stockholders' meeting called to approve such transaction, or twenty (20) days prior to the closing of such transaction, whichever is earlier, and shall also notify such holders in writing of the final approval of such transaction. The first of such notices shall describe the material terms and conditions of the impending transaction and the provisions of this Section 2, and this corporation shall thereafter give such holders prompt notice of any material changes to such transaction. The transaction shall in no event take place sooner than twenty (20) days after this corporation has given the first notice provided for herein or sooner than ten (10) days after this corporation has given notice of any material changes provided for herein; provided, however, that subject to compliance with the General Corporation Law such periods may be shortened or waived upon the written consent of the holders of Preferred Stock that represent a majority of the voting power of all then outstanding shares of such Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis).

(f) Allocation of Contingent Consideration. In the event of a deemed Liquidation Event pursuant to subsection 2(e)(i), if any portion of the consideration payable to the stockholders of this corporation is placed into escrow and/or is payable to the stockholders of this corporation subject to contingencies, the definitive agreement with respect to such deemed Liquidation Event shall provide that (a) the portion of such consideration that is not placed in escrow and not subject to any contingencies (the "**Initial Consideration**") shall be allocated among the holders of capital stock of this corporation in accordance with subsections 2(a), 2(b) and 2(c) as if the Initial Consideration were the only consideration payable in connection with such deemed Liquidation Event and (b) any additional consideration that becomes payable to the stockholders of this corporation upon release from escrow or satisfaction of contingencies shall be allocated among the holders of capital stock of this corporation in accordance with subsections 2(a), 2(b) and 2(c) after taking into account the previous payment of the Initial Consideration as part of the same transaction.

3. Redemption. The Preferred Stock is not redeemable at the option of the holder thereof.

4. Conversion. The holders of the Preferred Stock shall have conversion rights as follows (the "**Conversion Rights**"):

(a) Right to Convert. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such share, at the office of this corporation or any transfer agent for such stock, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the applicable Price for such series by the applicable Conversion Price for such series (the conversion rate for a series of Preferred Stock into Common Stock is referred to herein as the "**Conversion Rate**" for such series), determined as hereafter provided, in effect on the date the certificate is surrendered for conversion. The initial "**Conversion Price**" per share for each series of Preferred Stock shall be the Price applicable to such series; provided, however, that the Conversion Price for the Preferred Stock shall be subject to adjustment as set forth in subsection 4(d).

(b) Automatic Conversion. Each share of Preferred Stock shall automatically be converted into shares of Common Stock at the applicable Conversion Rate at the time in effect for such series of Preferred Stock immediately upon the earlier of (i) the closing of this corporation's sale of its Common Stock in a firm commitment underwritten public offering pursuant to a registration statement on Form S-1 under the Securities Act of 1933, as amended, the public offering price of which was not less than 1.6 times (1.6x) the Price per share of the Series B Preferred Stock (as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like, but excluding the Reverse Stock Split) and the gross proceeds to this corporation (before underwriting discounts and commissions) are at least Thirty Million Dollars ($30,000,000) (such an offering, a "**Qualified Public Offering**") or (ii) the date, or the occurrence of an event, specified by vote or written consent or agreement of the holders of a majority of the then outstanding shares of Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis).

(c) Mechanics of Conversion. Before any holder of Preferred Stock shall be entitled to voluntarily convert the same into shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of this corporation or of any transfer agent for the Preferred Stock, and shall give written notice to this corporation at its principal corporate office, of the election to convert the same and shall state therein the name or names in which the certificate or certificates for shares of Common Stock are to be issued. This corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Preferred Stock, or to the nominee or nominees of such holder, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made immediately prior to the close of business on the date set forth for conversion in the written notice of the election to convert irrespective of the surrender of the shares of Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock as of such date. If the conversion is in connection with an underwritten offering of securities

registered pursuant to the Securities Act of 1933, as amended, the conversion may, at the option of any holder tendering Preferred Stock for conversion, be conditioned upon the closing with the underwriters of the sale of securities pursuant to such offering, in which event the persons entitled to receive the Common Stock upon conversion of the Preferred Stock shall not be deemed to have converted such Preferred Stock until immediately prior to the closing of such sale of securities. If the conversion is in connection with the automatic conversion provisions of subsection 4(b)(ii) above, such conversion shall be deemed to have been made on the conversion date described in the stockholder consent approving such conversion, and the persons entitled to receive shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holders of such shares of Common Stock as of such date.

(d) Conversion Price Adjustments of Preferred Stock for Certain Dilutive Issuances, Splits and Combinations. The Conversion Price of the Preferred Stock shall be subject to adjustment from time to time as follows:

(i)(A) If this corporation shall issue, on or after the date upon which this Restated Certificate of Incorporation is accepted for filing by the Secretary of State of the State of Delaware (the "**Filing Date**"), any Additional Stock (as defined below) without consideration or for a consideration per share less than (1) in the case of the Series B Preferred Stock, the Conversion Price applicable to the Series B Preferred Stock in effect immediately prior to the issuance of such Additional Stock or (2) in the case of the Series A Preferred Stock and the Series A-1 Preferred Stock, the Conversion Price applicable to the Series A Preferred Stock in effect immediately prior to the issuance of such Additional Stock, then the Conversion Price of each such series of Preferred Stock, as applicable, in effect immediately prior to each such issuance shall forthwith (except as otherwise provided in this clause (i)) be adjusted to a price (calculated to the nearest one-hundredth of a cent) determined by multiplying the then current Conversion Price for such series, as applicable, by a fraction, the numerator of which shall be the number of shares of Common Stock Outstanding (as defined below) immediately prior to such issuance plus the number of shares of Common Stock that the aggregate consideration received by this corporation for such issuance would purchase at the relevant Conversion Price; and the denominator of which shall be the number of shares of Common Stock Outstanding (as defined below) immediately prior to such issuance plus the number of shares of such Additional Stock. For purposes of this Section 4(d)(i)(A), the term "Common Stock Outstanding" shall mean and include the following: (1) outstanding Common Stock, (2) Common Stock issuable upon conversion of outstanding Preferred Stock, (3) Common Stock issuable upon exercise of outstanding stock options and upon settlement of all outstanding restricted stock units and (4) Common Stock issuable upon exercise (and, in the case of warrants to purchase Preferred Stock, conversion) of outstanding warrants. Shares described in (1) through (4) above shall be included whether vested or unvested, whether contingent or non-contingent and whether exercisable or not yet exercisable.

(B) No adjustment of the Conversion Price for the Preferred Stock shall be made in an amount less than one-tenth of one cent per share. Except to the limited extent provided for in subsections (E)(3) and (E)(4), no adjustment of such Conversion Price pursuant to this subsection 4(d)(i) shall have the effect of increasing the Conversion Price above the Conversion Price in effect immediately prior to such adjustment.

(C) In the case of the issuance of Additional Stock for cash, the consideration shall be deemed to be the amount of cash paid therefor before deducting any reasonable discounts, commissions or other expenses allowed, paid or incurred by this corporation for any underwriting or otherwise in connection with the issuance and sale thereof.

(D) In the case of the issuance of the Additional Stock for a consideration in whole or in part other than cash, the consideration other than cash shall be deemed to be the fair market value thereof as determined by the Board of Directors irrespective of any accounting treatment.

(E) In the case of the issuance of options to purchase or rights to subscribe for Common Stock, securities by their terms convertible into or exchangeable for Common Stock or options to purchase or rights to subscribe for such convertible or exchangeable securities, the following provisions shall apply for purposes of determining the number of shares of Additional Stock issued and the consideration paid therefor:

(1) The aggregate maximum number of shares of Common Stock deliverable upon exercise (assuming the satisfaction of any conditions to exercisability, including without limitation, the passage of time, but without taking into account potential antidilution adjustments) of such options to purchase or rights to subscribe for Common Stock shall be deemed to have been issued at the time such options or rights were issued and for a consideration equal to the consideration (determined in the manner provided in subsections 4(d)(i)(C) and (d)(i)(D)), if any, received by this corporation upon the issuance of such options or rights plus the minimum exercise price provided in such options or rights (without taking into account potential antidilution adjustments) for the Common Stock covered thereby.

(2) The aggregate maximum number of shares of Common Stock deliverable upon conversion of, or in exchange (assuming the satisfaction of any conditions to convertibility or exchangeability, including, without limitation, the passage of time, but without taking into account potential antidilution adjustments) for, any such convertible or exchangeable securities or upon the exercise of options to purchase or rights to subscribe for such convertible or exchangeable securities and subsequent conversion or exchange thereof shall be deemed to have been issued at the time such securities were issued or such options or rights were issued and for a consideration equal to the consideration, if any, received by this corporation for any such securities and related options or rights (excluding any cash received on account of accrued interest or accrued dividends), plus the minimum additional consideration, if any, to be received by this corporation (without taking into account potential antidilution adjustments) upon the conversion or exchange of such securities or the exercise of any related options or rights (the consideration in each case to be determined in the manner provided in subsections 4(d)(i)(C) and (d)(i)(D)).

(3) In the event of any change in the number of shares of Common Stock deliverable or in the consideration payable to this corporation upon exercise of such options or rights or upon conversion of or in exchange for such convertible or exchangeable securities, the Conversion Price of the Preferred Stock, to the extent in any way affected by or computed using such options, rights or securities, shall be recomputed to reflect such change, but no further adjustment shall be made for the actual issuance of Common Stock or any payment of such consideration upon the exercise of any such options or rights or the conversion or exchange of such securities.

(4) Upon the expiration of any such options or rights, the termination of any such rights to convert or exchange or the expiration of any options or rights related to such convertible or exchangeable securities, the Conversion Price of the Preferred Stock, to the extent in any way affected by or computed using such options, rights or securities or options or rights related to such securities, shall be recomputed to reflect the issuance of only the number of shares of Common Stock (and convertible or exchangeable securities that remain in effect) actually issued upon the exercise of such options or rights, upon the conversion or exchange of such securities or upon the exercise of the options or rights related to such securities.

(5) The number of shares of Additional Stock deemed issued and the consideration deemed paid therefor pursuant to subsections 4(d)(i)(E)(1) and (2) shall be appropriately adjusted to reflect any change, termination or expiration of the type described in either subsection 4(d)(i)(E)(3) or (4).

(ii) "Additional Stock" shall mean any shares of Common Stock issued (or deemed to have been issued pursuant to subsection 4(d)(i)(E)) by this corporation on or after the Filing Date other than:

(A) Common Stock issued pursuant to a transaction described in subsection 4(d)(iii) hereof;

(B) Shares of Common Stock issued to employees, directors, consultants and other service providers for the primary purpose of soliciting or retaining their services pursuant to plans or agreements approved by the Board of Directors;

(C) Common Stock issued pursuant to a Qualified Public Offering;

(D) Common Stock issued pursuant to the conversion or exercise of convertible or exercisable securities outstanding on the Filing Date;

(E) Common Stock issued in connection with a bona fide business acquisition by this corporation, whether by merger, consolidation, sale of assets, sale or exchange of stock or otherwise;

(F) Common Stock issued or deemed issued pursuant to subsection 4(d)(i)(E) as a result of a decrease in the Conversion Price of any series of Preferred Stock resulting from the operation of Section 4(d);

(G) Common Stock issued upon conversion of the Series A Preferred Stock, Series A-1 Preferred Stock and Series B Preferred Stock;

(H) Shares of Common Stock issued pursuant to any equipment leasing arrangement or debt financing arrangement, which arrangement is approved by the Board of Directors and is primarily for non-equity financing purposes;

(I) Common Stock issued to persons or entities with which this corporation has business relationships, provided such issuances are approved by the Board of Directors and are primarily for non-equity financing purposes; or

(J) Common Stock that is issued with the approval of (i) the Board of Directors acting unanimously and (ii) the holders of a majority of the then outstanding shares of Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis), in both cases specifically stating such issuance(s) shall not be Additional Stock.

(iii) In the event this corporation should at any time or from time to time after the Filing Date fix a record date for the effectuation of a split or subdivision of the outstanding shares of Common Stock or the determination of holders of Common Stock entitled to receive a dividend or other distribution payable in additional shares of Common Stock or other securities or rights convertible into, or entitling the holder thereof to receive directly or indirectly, additional shares of Common Stock (hereinafter referred to as "**Common Stock Equivalents**") without payment of any consideration by such holder for the additional shares of Common Stock or the Common Stock Equivalents (including the additional shares of Common Stock issuable upon conversion or exercise thereof), then, as of such record date (or the date of such dividend distribution, split or subdivision if no record date is fixed), the Conversion Price of the Preferred Stock shall be appropriately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase of the aggregate of shares of Common Stock outstanding and those issuable with respect to such Common Stock Equivalents with the number of shares issuable with respect to Common Stock Equivalents determined from time to time in the manner provided for deemed issuances in subsection 4(d)(i)(E).

(iv) If the number of shares of Common Stock outstanding at any time after the Filing Date is decreased by a combination of the outstanding shares of Common Stock, then, following the record date of such combination, the Conversion Price for the Preferred Stock shall be appropriately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in outstanding shares.

(e) Other Distributions. In the event this corporation shall declare a distribution payable in securities of other persons, evidences of indebtedness issued by this corporation or other persons, assets (excluding cash dividends) or options or rights not referred to in subsection 4(d)(ii), then, in each such case for the purpose of this subsection 4(e), the holders of the Preferred Stock shall be entitled to a proportionate share of any such distribution as though they were the holders of the number of shares of Common Stock of this corporation into which their shares of Preferred Stock are convertible as of the record date fixed for the determination of the holders of Common Stock of this corporation entitled to receive such distribution.

(f) Recapitalizations. If at any time or from time to time there shall be a recapitalization of the Common Stock (other than a subdivision, combination or merger or sale of assets transaction provided for elsewhere in this Section 4 or in Section 2), then provision shall be made so that the holders of the Preferred Stock shall thereafter be entitled to receive, upon conversion of the Preferred Stock, the number of shares of stock or other securities or property of this corporation or otherwise to which a holder of Common Stock deliverable upon conversion would have been entitled on such recapitalization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 4 with respect to the rights of the holders of the Preferred Stock after the recapitalization to the end that the provisions of this Section 4 (including adjustment of the Conversion Price then in effect and the number of shares purchasable upon conversion of the Preferred Stock) shall be applicable after that event as nearly equivalently as may be practicable.

(g) No Fractional Shares and Certificate as to Adjustments.

(i) No fractional shares shall be issued upon the conversion of any share or shares of the Preferred Stock, and the aggregate number of shares of Common Stock to be issued to particular stockholders shall be rounded down to the nearest whole share and this corporation shall pay in cash the fair market value of any fractional shares as of the time when entitlement to receive such fractions is determined. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the number of shares of Common Stock issuable upon such conversion.

(ii) Upon the occurrence of each adjustment or readjustment of the Conversion Price of Preferred Stock pursuant to this Section 4, this corporation, at its expense, shall promptly compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Preferred Stock a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. This corporation shall, upon the written request at any time of any holder of Preferred Stock, furnish or cause to be furnished to such holder a like certificate setting forth (A) such adjustment and readjustment, (B) the Conversion Price for such series of Preferred Stock at the time in effect, and (C) the number of shares of Common Stock and the amount, if any, of other property that at the time would be received upon the conversion of a share of Preferred Stock.

(h) Notices of Record Date. In the event of any taking by this corporation of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend (other than a cash dividend) or other distribution, this corporation shall mail to each holder of Preferred Stock, at least ten (10) days prior to the date specified therein, a notice specifying the date on which any such record is to be taken for the purpose of such dividend or distribution, and the amount and character of such dividend or distribution.

(i) Reservation of Stock Issuable Upon Conversion. This corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Preferred Stock,

such number of its shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, in addition to such other remedies as shall be available to the holder of such Preferred Stock, this corporation will take such corporate action as may, in the opinion of its counsel, be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Restated Certificate of Incorporation.

(j) Waiver of Adjustment to Conversion Price. Notwithstanding anything herein to the contrary, any downward adjustment of the Conversion Price of any series of Preferred Stock may be waived, either prospectively or retroactively and either generally or in a particular instance, by the consent or vote of the holders of a majority of the outstanding shares of Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis). Any such waiver shall bind all future holders of shares of such series of Preferred Stock.

5. Voting Rights.

(a) General Voting Rights. The holder of each share of Preferred Stock shall have the right to one vote for each share of Common Stock into which such Preferred Stock could then be converted, and with respect to such vote, such holder shall have full voting rights and powers equal to the voting rights and powers of the holders of Common Stock, and shall be entitled, notwithstanding any provision hereof, to notice of any stockholders' meeting in accordance with the bylaws of this corporation (the "**Bylaws**"), and except as provided by law or in subsection 5(b) below with respect to the election of directors by the separate class vote of the holders of Common Stock, shall be entitled to vote, together with holders of Common Stock, with respect to any question upon which holders of Common Stock have the right to vote. Fractional votes shall not, however, be permitted and any fractional voting rights available on an as-converted basis (after aggregating all shares into which shares of Preferred Stock held by each holder could be converted) shall be rounded to the nearest whole number (with one-half being rounded upward).

(b) Voting for the Election of Directors. As long as at least One Million Two Hundred Eighty-Two Thousand Fifty-One (1,282,051) shares of Series B Preferred Stock are outstanding, the holders of Series B Preferred Stock shall be entitled to elect one (1) director of this corporation at any election of directors. As long as at least Five Hundred Twelve Thousand Eight Hundred Twenty (512,820) shares of Series A Preferred Stock are outstanding, the holders of Series A Preferred Stock shall be entitled to elect two (2) directors of this corporation at any election of directors. The holders of outstanding Common Stock shall be entitled to elect one (1) director of this corporation at any election of directors. The holders of Series B Preferred Stock, Series A Preferred Stock, Series A-1 Preferred Stock and Common Stock (voting together as a single class and not as separate series, and on an as-converted basis) shall be entitled to elect any remaining directors of this corporation.

Notwithstanding the provisions of Section 223(a)(1) and 223(a)(2) of the General Corporation Law, any vacancy, including newly created directorships resulting from any increase in the authorized number of directors or amendment of this Restated Certificate of Incorporation, and vacancies created by removal or resignation of a director, may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify, unless sooner displaced; provided, however, that where such vacancy occurs among the directors elected by the holders of a class or series of stock, the holders of shares of such class or series may override the action of the Board of Directors to fill such vacancy by (i) voting for their own designee to fill such vacancy at a meeting of this corporation's stockholders or (ii) written consent, if the consenting stockholders hold a sufficient number of shares to elect their designee at a meeting of the stockholders. Any director may be removed during his or her term of office, either with or without cause, by, and only by, the affirmative vote of the holders of the shares of the class or series of stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders, and any vacancy thereby created may be filled by the holders of that class or series of stock represented at the meeting or pursuant to written consent.

6. Protective Provisions.

(a) So long as at least One Million Two Hundred Eighty-Two Thousand Fifty-One (1,282,051) shares of Preferred Stock are outstanding, this corporation shall not (by amendment, merger, consolidation or otherwise) without (in addition to any other vote required by law or this Restated Certificate of Incorporation) first obtaining the approval by vote or written consent, as provided by law, of the holders of a majority of the then outstanding shares of Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis):

(i) consummate a Liquidation Event or effect any other merger or consolidation with respect to this corporation or any similar event with respect to any of Nina Biotherapeutics, Inc., Pinta Biotherapeutics, Inc., or Santa Maria Biotherapeutics, Inc.;

(ii) amend, alter or repeal any provision of this Restated Certificate of Incorporation or the Bylaws so as to adversely alter or change the powers, preferences or special rights of the shares of Preferred Stock;

(iii) increase or decrease (other than by redemption or conversion) the total number of authorized shares of Common Stock or Preferred Stock or designated shares of any series of Preferred Stock;

(iv) authorize or issue any equity security (including any other security convertible into or exercisable for any such equity security) having a preference over, or being on a parity with, any series of Preferred Stock with respect to dividends, liquidation or redemption, other than the issuance of any authorized but unissued shares of Series B Preferred Stock designated in this Restated Certificate of Incorporation (including any security convertible into or exercisable for such shares of Preferred Stock) or issue to any third party any equity security of any of Nina Biotherapeutics, Inc., Pinta Biotherapeutics, Inc., or Santa Maria Biotherapeutics, Inc.;

(v) redeem, purchase or otherwise acquire (or pay into or set aside for a sinking fund for such purpose) any share or shares of Preferred Stock or Common Stock; provided, however, that this restriction shall not apply to the repurchase of shares of Common Stock from employees, officers, directors, consultants or other persons performing services for this corporation or any subsidiary pursuant to agreements under which this corporation has the option to repurchase such shares upon the occurrence of certain events, such as the termination of employment or service, or pursuant to a right of first refusal;

(vi) change the authorized number of directors of this corporation;

(vii) pay or declare any dividend or make any other distribution on any shares of capital stock of this corporation other than dividends payable on the Common Stock solely in the form of additional shares of Common Stock;

(viii) create or authorize the creation of any debt security (which shall not include trade payables, equipment leases or bank lines of credit approved by the Board of Directors); or

(ix) establish any subsidiary of this corporation (other than Nina Biotherapeutics, Inc., Pinta Biotherapeutics, Inc., or Santa Maria Biotherapeutics, Inc.) or sell any subsidiary of this corporation.

(b) So long as at least One Million Two Hundred Eighty-Two Thousand Fifty-One (1,282,051) shares of Series B Preferred Stock are outstanding, this corporation shall not (by amendment, merger, consolidation or otherwise) without (in addition to any other vote required by law or this Restated Certificate of Incorporation) first obtaining the approval by vote or written consent, as provided by law, of the holders of a majority of the then outstanding shares of Series B Preferred Stock:

(i) increase or decrease (other than by redemption or conversion) the total number of authorized shares of Series B Preferred Stock; or

(ii) amend, alter or repeal any provision of this Restated Certificate of Incorporation or the Bylaws so as to adversely affect the Series B Preferred Stock in a manner that is different than the other series of Preferred Stock, it being understood that the Series B Preferred Stock shall not be affected differently because of the proportional differences in the amounts of respective issue prices, conversion prices, liquidation preferences and redemption prices that arise out of differences in the Price compared to other series of Preferred Stock.

(c) So long as at least Three Hundred Seven Thousand Six Hundred Ninety-Two (307,692) shares of Series A-1 Preferred Stock remain outstanding, this corporation shall not (by amendment, merger, consolidation or otherwise) without (in addition to any other vote required by law or this Restated Certificate of Incorporation) first obtaining the approval by vote or written consent, as provided by law, of the holders of a majority of the then outstanding shares of Series A-1 Preferred Stock:

(i) reduce the amount of the Series A-1 Preferred Stock liquidation preference or modify the status of the Series A-1 Preferred Stock as being pari passu to the Series A Preferred Stock and senior to the Common Stock; or

(ii) amend, alter or repeal any provision of this Restated Certificate of Incorporation or the Bylaws so as to adversely effect the Series A-1 Preferred Stock in a manner that is different than the Series A Preferred Stock.

7. Status of Converted Stock. In the event any shares of Preferred Stock shall be converted pursuant to Section 4 hereof, the shares so converted shall be cancelled and shall not be reissuable by this corporation. This Restated Certificate of Incorporation shall be appropriately amended to effect the corresponding reduction in this corporation's authorized capital stock.

8. Notices. Any notice required by the provisions of this Article IV(C) to be given to the holders of shares of Preferred Stock shall be deemed given (i) if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his, her or its address appearing on the books of this corporation, (ii) if such notice is provided by electronic transmission in a manner permitted by Section 232 of the General Corporation Law, or (iii) if such notice is provided in another manner then permitted by the General Corporation Law.

D. Common Stock. The rights, preferences, privileges and restrictions granted to and imposed on the Common Stock are as set forth below in this Article IV(D).

1. Dividend Rights. Subject to the prior rights of holders of all classes of stock at the time outstanding having prior rights as to dividends, the holders of the Common Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of any assets of this corporation legally available therefor, any dividends as may be declared from time to time by the Board of Directors.

2. Liquidation Rights. Upon the liquidation, dissolution or winding up of this corporation, the assets of this corporation shall be distributed as provided in Section 2 of Article IV(C) hereof.

3. Redemption. The Common Stock is not redeemable at the option of the holder.

4. Voting Rights. The holder of each share of Common Stock shall have the right to one vote for each such share, and shall be entitled to notice of any stockholders' meeting in accordance with the Bylaws, and shall be entitled to vote upon such matters and in such manner as may be provided by law; provided, however, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Restated Certificate of Incorporation that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to this

Restated Certificate of Incorporation or pursuant to the General Corporation Law. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the stock of this corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

ARTICLE V

Except as otherwise provided in this Restated Certificate of Incorporation, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of this corporation.

ARTICLE VI

The number of directors of this corporation shall be determined in the manner set forth in the Bylaws.

ARTICLE VII

Elections of directors need not be by written ballot unless the Bylaws shall so provide.

ARTICLE VIII

Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws may provide. The books of this corporation may be kept (subject to any provision contained in the statutes) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws.

ARTICLE IX

A director of this corporation shall not be personally liable to this corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to this corporation or its stockholders, (ii) for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law, or (iv) for any transaction from which the director derived any improper personal benefit. If the General Corporation Law is amended after approval by the stockholders of this Article IX to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of this corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any amendment, repeal or modification of the foregoing provisions of this Article IX by the stockholders of this corporation shall not adversely affect any right or protection of a director of this corporation existing at the time of, or increase the liability of any director of this corporation with respect to any acts or omissions of such director occurring prior to, such amendment, repeal or modification.

ARTICLE X

This corporation reserves the right to amend, alter, change or repeal any provision contained in this Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon stockholders herein are granted subject to this reservation.

ARTICLE XI

To the fullest extent permitted by applicable law, this corporation is authorized to provide indemnification of (and advancement of expenses to) directors, officers, employees and agents of this corporation (and any other persons to which the General Corporation Law permits this corporation to provide indemnification) through provision of the Bylaws, agreements with such persons, vote of stockholders or disinterested directors or otherwise, in excess of the indemnification and advancement otherwise permitted by Section 145 of the General Corporation Law, subject only to limits created by applicable General Corporation Law (statutory or non-statutory), with respect to actions for breach of duty to this corporation, its stockholders, and others.

Any amendment, repeal or modification of the foregoing provisions of this Article XI shall not adversely affect any right or protection of a director, officer, employee, agent or other person existing at the time of, or increase the liability of any such person with respect to any acts or omissions of such person occurring prior to, such amendment, repeal or modification.

ARTICLE XII

This corporation renounces any interest or expectancy of this corporation in, or in being offered an opportunity to participate in, an Excluded Opportunity. An "Excluded Opportunity" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of this corporation who is not an employee of this corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee or agent of any such holder, other than someone who is an employee of this corporation or any of its subsidiaries (collectively, "**Covered Persons**"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of this corporation.

ARTICLE XIII

In connection with repurchases by this corporation of its Common Stock from employees, officers, directors, advisors, consultants or other persons performing services for this corporation or any subsidiary pursuant to agreements under which this corporation has the option to repurchase such shares at cost upon the occurrence of certain events, such as the termination of employment, Section 500 of the California Corporations Code shall not apply in all or in part with respect to such repurchases. In the case of any such repurchases, distributions by the corporation may be made without regard to the "preferential dividends arrears amount" or any "preferential rights amount," as such terms are defined in Section 500(b) of the California Corporations Code.

* * *

THIRD: The foregoing amendment and restatement was approved by the holders of the requisite number of shares of said corporation in accordance with Section 228 of the General Corporation Law.

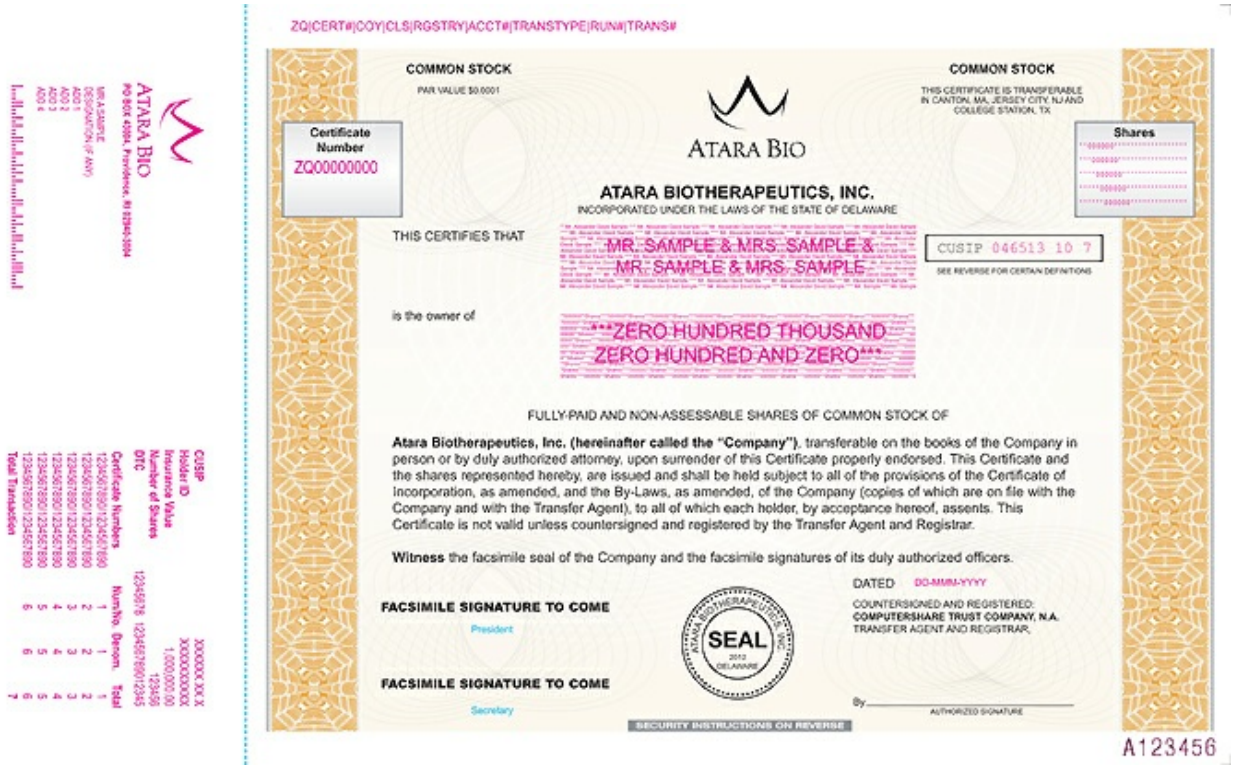
FOURTH: That this Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this corporation's certificate of incorporation, as amended, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

IN WITNESS WHEREOF, this Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 9th day of July, 2014.

/s/ Isaac Ciechanover

Isaac Ciechanover, President

Exhibit 4.1



ZQ|CERT#|COY|CLS|RGSTRY|ACCT#|TRANSTYPE|RUN#|TRANS#

ATARA BIO
PO BOX 43004, Providence, RI 02940-3004

SEE A SAMPLE
DESIGNATION (IF ANY)
ADD 1
ADD 2
ADD 3
ADD 4
ADD 5
ADD 6

CUSIP
Holder ID
Insurance Value
Number of Shares
DTC

Certificate Numbers | Num/No. | Denom. | Total

12345678901234567890 | 1 | 1 | 1
12345678901234567890 | 2 | 2 | 2
12345678901234567890 | 3 | 3 | 3
12345678901234567890 | 4 | 4 | 4
12345678901234567890 | 5 | 5 | 5
12345678901234567890 | 6 | 6 | 6
Total Transaction | | | 7

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1,000,000.00
123456
12345678 12345678901234567890

COMMON STOCK

PAR VALUE $0.0001

COMMON STOCK

THIS CERTIFICATE IS TRANSFERABLE IN CANTON, MA; JERSEY CITY, NJ AND COLLEGE STATION, TX

Certificate Number

ZQ00000000

Shares

ATARA BIO

ATARA BIOTHERAPEUTICS, INC.

INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE

THIS CERTIFIES THAT

MR. SAMPLE & MRS. SAMPLE & MR. SAMPLE & MRS. SAMPLE

CUSIP 046513 10 7

SEE REVERSE FOR CERTAIN DEFINITIONS

is the owner of

ZERO HUNDRED THOUSAND ZERO HUNDRED AND ZERO

FULLY-PAID AND NON-ASSESSABLE SHARES OF COMMON STOCK OF

Atara Biotherapeutics, Inc. (hereinafter called the "Company"), transferable on the books of the Company in person or by duly authorized attorney, upon surrender of this Certificate properly endorsed. This Certificate and the shares represented hereby, are issued and shall be held subject to all of the provisions of the Certificate of Incorporation, as amended, and the By-Laws, as amended, of the Company (copies of which are on file with the Company and with the Transfer Agent), to all of which each holder, by acceptance hereof, assents. This Certificate is not valid unless countersigned and registered by the Transfer Agent and Registrar.

Witness the facsimile seal of the Company and the facsimile signatures of its duly authorized officers.

DATED DD-MMM-YYYY

FACSIMILE SIGNATURE TO COME

President

FACSIMILE SIGNATURE TO COME

Secretary

SEAL
2012
DELAWARE

COUNTERSIGNED AND REGISTERED:
COMPUTERSHARE TRUST COMPANY, N.A.
TRANSFER AGENT AND REGISTRAR,

By_____
AUTHORIZED SIGNATURE

SECURITY INSTRUCTIONS ON REVERSE

A123456

ATARA BIOTHERAPEUTICS, INC.

THE COMPANY WILL FURNISH WITHOUT CHARGE TO EACH SHAREHOLDER WHO SO REQUESTS, A SUMMARY OF THE POWERS, DESIGNATIONS, PREFERENCES AND RELATIVE, PARTICIPATING, OPTIONAL OR OTHER SPECIAL RIGHTS OF EACH CLASS OF STOCK OF THE COMPANY AND THE QUALIFICATIONS, LIMITATIONS OR RESTRICTIONS OF SUCH PREFERENCES AND RIGHTS, AND THE VARIATIONS IN RIGHTS, PREFERENCES AND LIMITATIONS DETERMINED FOR EACH SERIES, WHICH ARE FIXED BY THE CERTIFICATE OF INCORPORATION OF THE COMPANY, AS AMENDED, AND THE RESOLUTIONS OF THE BOARD OF DIRECTORS OF THE COMPANY, AND THE AUTHORITY OF THE BOARD OF DIRECTORS TO DETERMINE VARIATIONS FOR FUTURE SERIES. SUCH REQUEST MAY BE MADE TO THE OFFICE OF THE SECRETARY OF THE COMPANY OR TO THE TRANSFER AGENT. THE BOARD OF DIRECTORS MAY REQUIRE THE OWNER OF A LOST OR DESTROYED STOCK CERTIFICATE, OR HIS LEGAL REPRESENTATIVES, TO GIVE THE COMPANY A BOND TO INDEMNIFY IT AND ITS TRANSFER AGENTS AND REGISTRARS AGAINST ANY CLAIM THAT MAY BE MADE AGAINST THEM ON ACCOUNT OF THE ALLEGED LOSS OR DESTRUCTION OF ANY SUCH CERTIFICATE.

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM	- as tenants in common	UNIF GIFT MIN ACT	- ..... (Cust) Custodian ..... (Minor) under Uniform Gifts to Minors Act ..... (State)
TEN ENT	- as tenants by the entireties		
JT TEN	- as joint tenants with right of survivorship and not as tenants in common	UNIF TRF MIN ACT	- ..... (Cust) Custodian (until age .....) ..... (Minor) under Uniform Transfers to Minors Act ..... (State)

Additional abbreviations may also be used though not in the above list.

For value received, _____ hereby sell, assign and transfer unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

_____

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING POSTAL ZIP CODE, OF ASSIGNEE)

_____

_____

_____ Shares

of the common stock represented by the within Certificate, and do hereby irrevocably constitute and appoint

_____ Attorney

to transfer the said stock on the books of the within-named Company with full power of substitution in the premises.

Dated: _____ 20____

Signature: _____

Signature: _____

Notice: The signature to this assignment must correspond with the name as written upon the face of the certificate, in every particular, without alteration or enlargement, or any change whatever.

Signature(s) Guaranteed: Medallion Guarantee Stamp

THE SIGNATURE(S) SHOULD BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION (Banks, Stockbrokers, Savings and Loan Associations and Credit Unions) WITH MEMBERSHIP IN AN APPROVED SIGNATURE GUARANTEE MEDALLION PROGRAM, PURSUANT TO S.E.C. RULE 17Ad-15.

SECURITY INSTRUCTIONS

THIS IS WATERMARKED PAPER. DO NOT ACCEPT WITHOUT NOTING WATERMARK. HOLD TO LIGHT TO VERIFY WATERMARK.

The IRS requires that we report the cost basis of certain shares acquired after January 1, 2011. If your shares were covered by the legislation and you have sold or transferred the shares and requested a specific cost basis calculation method, we have processed as requested. If you did not specify a cost basis calculation method, we have defaulted to the first in, first out (FIFO) method. Please visit our website or consult your tax advisor if you need additional information about cost basis.

If you do not keep in contact with us or do not have any activity in your account for the time periods specified by state law, your property could become subject to state unclaimed property laws and transferred to the appropriate state.

1234567

Exhibit 5.1

Jodie M. Bourdet
T: +1 415 693 2054
jbourdet@cooley.com

July 10, 2014

Atara Biotherapeutics, Inc.
3260 Bayshore Boulevard
Brisbane, CA 94005

Ladies and Gentlemen:

We have acted as counsel to Atara Biotherapeutics, Inc., a Delaware corporation (the "***Company***"), in connection with the filing of a Registration Statement on Form S-1 (the "***Registration Statement***") with the Securities and Exchange Commission, including a related prospectus filed with the Registration Statement (the "***Prospectus***"), covering an underwritten public offering (the "***Offering***") of up to 5,750,000 shares of the Company's common stock, par value $0.0001 per share (the "***Shares***"), which includes up to 5,000,000 Shares to be sold by the Company (the "***Company Shares***") and up to 750,000 Shares that may be sold by the Company pursuant to the exercise of an option to purchase additional Shares granted to the underwriters (the "***Optional Shares***").

In connection with this opinion, we have (i) examined and relied upon (a) the Registration Statement and related Prospectus, (b) the Company's Restated Certificate of Incorporation and Bylaws, as currently in effect as of the date hereof, (c) the Company's Amended and Restated Certificate of Incorporation, filed as Exhibit 3.2 to the Registration Statement and the Company's Amended and Restated Bylaws, filed as Exhibit 3.4 to the Registration Statement, each of which will be in effect upon the closing of the Offering, and (d) the originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below and (ii) assumed that the Shares to be sold to the underwriters by the Company will be sold at a price established by the Board of Directors of the Company or the Pricing Committee thereof in accordance with Section 153 of the Delaware General Corporation Law. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought independently to verify such matters. We have assumed the genuineness and authenticity of all documents submitted to us as originals, and the conformity to originals of all documents submitted to us as copies. As to certain factual matters, we have relied upon a certificate of officers of the Company and have not sought to independently verify such matters. Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that: the Company Shares and the Optional Shares, when sold and issued as described in the Registration Statement and the related Prospectus, will be validly issued, fully paid and non-assessable.

We consent to the reference to our firm under the caption "Legal Matters" in the Prospectus included in the Registration Statement and to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

Cooley LLP

By: /s/ Jodie M. Bourdet
Jodie M. Bourdet

Exhibit 10.1

ATARA BIOTHERAPEUTICS, INC.

2014 EQUITY INCENTIVE PLAN

ADOPTED BY THE BOARD: MARCH 31, 2014
AMENDED AND RESTATED BY THE BOARD: MAY 28, 2014
APPROVED BY THE STOCKHOLDERS: JUNE 2, 2014
EFFECTIVE DATE: MARCH 31, 2014

1. GENERAL.

(a) Successor to and Continuation of Prior Plans.

(i) The Plan is the successor to and continuation of the Nina Biotherapeutics, Inc. 2012 Equity Incentive Plan, the Pinta Biotherapeutics, Inc. 2012 Equity Incentive Plan, and the Santa Maria Biotherapeutics 2012 Equity Incentive Plan, as amended (collectively, the "***Prior Plans***"). From and after 12:01 a.m. Pacific time on the Effective Date, no additional stock awards will be granted under the Prior Plan. All stock awards granted under the Prior Plan remain subject to the terms of the Prior Plan. All Awards granted on or after 12:01 a.m. Pacific Time on the Effective Date are subject to the terms of this Plan.

(ii) Any shares that would otherwise remain available for future grants under any of the Prior Plans as of 12:01 a.m. Pacific Time on the Effective Date ceased to be available under the Prior Plans at such time. Instead, that number of shares of Common Stock equal to the number of shares of the Company then available for future grants under the Prior Plans (the "***Prior Plans' Available Reserve***") was added to the Share Reserve (as further described in Section 3(a) below) and became immediately available for grants and issuance pursuant to Stock Awards under this Plan, up to the maximum number set forth in Section 3(a) below.

(iii) From and after 12:01 a.m. Pacific time on the Effective Date, a number of shares of Common Stock equal to the total number of shares of common stock subject to outstanding stock awards granted under the Prior Plan that (A) expire or terminate for any reason prior to exercise or settlement, (B) are forfeited because of the failure to meet a contingency or condition required to vest such shares or repurchased at the original issuance price, or (C) are otherwise reacquired or are withheld (or not issued) to satisfy a tax withholding obligation in connection with an award (the "***Returning Shares***") will immediately be added to the Share Reserve (as further described in Section 3(a) below) as and when such shares become Returning Shares (up to the maximum number set forth in Section 3(a)), and become available for issuance pursuant to Stock Awards granted hereunder.

(b) Eligible Award Recipients. Employees, Directors and Consultants are eligible to receive Awards.

(c) Available Awards. The Plan provides for the grant of the following Awards: (i) Incentive Stock Options; (ii) Nonstatutory Stock Options; (iii) Stock Appreciation Rights; (iv) Restricted Stock Awards; (v) Restricted Stock Unit Awards; (vi) Performance Stock Awards; (vii) Performance Cash Awards; and (viii) Other Stock Awards.

(d) Purpose. This Plan, through the granting of Awards, is intended to help the Company secure and retain the services of eligible award recipients, provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate and provide a means by which the eligible recipients may benefit from increases in value of the Common Stock.

2. ADMINISTRATION.

(a) Administration by Board. The Board will administer the Plan. The Board may delegate administration of the Plan to a Committee or Committees, as provided in Section 2(c).

(b) Powers of Board. The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine: (A) who will be granted Awards; (B) when and how each Award will be granted; (C) what type of Award will be granted; (D) the provisions of each Award (which need not be identical), including when a person will be permitted to exercise or otherwise receive cash or Common Stock under the Award; (E) the number of shares of Common Stock subject to, or the cash value of, an Award; and (F) the Fair Market Value applicable to a Stock Award.

(ii) To construe and interpret the Plan and Awards granted under it, and to establish, amend and revoke rules and regulations for administration of the Plan and Awards. The Board, in the exercise of these powers, may correct any defect, omission or inconsistency in the Plan or in any Award Agreement or in the written terms of a Performance Cash Award, in a manner and to the extent it will deem necessary or expedient to make the Plan or Award fully effective.

(iii) To settle all controversies regarding the Plan and Awards granted under it.

(iv) To accelerate, in whole or in part, the time at which an Award may be exercised or vest (or at which cash or shares of Common Stock may be issued).

(v) To suspend or terminate the Plan at any time. Except as otherwise provided in the Plan or an Award Agreement, suspension or termination of the Plan will not materially impair a Participant's rights under his or her then-outstanding Award without his or her written consent except as provided in subsection (viii) below.

(vi) To amend the Plan in any respect the Board deems necessary or advisable, including, without limitation, adopting amendments relating to Incentive Stock Options and nonqualified deferred compensation under Section 409A of the Code and/or making the Plan or Awards granted under the Plan exempt from or compliant with the requirements for Incentive Stock Options or exempt from or compliant with the requirements for nonqualified deferred compensation under Section 409A of the Code, subject to the limitations, if any, of applicable law. If required by applicable law or listing requirements, and except as provided in Section 9(a) relating to Capitalization Adjustments, the Company will seek stockholder approval of any amendment of the Plan that (A) materially increases the number of shares of Common Stock available for issuance under the Plan, (B) materially expands the class of individuals eligible to receive Awards under the Plan, (C) materially increases the benefits accruing to Participants under the Plan, (D) materially reduces the price at which shares of Common Stock may be issued or purchased under the Plan, (E) materially extends the term of the Plan, or (F) materially expands the types of Awards available for issuance under the Plan. Except as otherwise provided in the Plan (including subsection (viii) below) or an Award Agreement, no amendment of the Plan will materially impair a Participant's rights under an outstanding Award without the Participant's written consent.

(vii) To submit any amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of (A) Section 162(m) of the

Code regarding the exclusion of performance-based compensation from the limit on corporate deductibility of compensation paid to Covered Employees, (B) Section 422 of the Code regarding "incentive stock options" or (C) Rule 16b-3 of Exchange Act or any successor rule.

(viii) To approve forms of Award Agreements for use under the Plan and to amend the terms of any one or more outstanding Awards, including, but not limited to, amendments to provide terms more favorable to the Participant than previously provided in the Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion. A Participant's rights under any Award will not be impaired by any such amendment unless the Company requests the consent of the affected Participant, and the Participant consents in writing. However, a Participant's rights will not be deemed to have been impaired by any such amendment if the Board, in its sole discretion, determines that the amendment, taken as a whole, does not materially impair the Participant's rights. In addition, subject to the limitations of applicable law, if any, the Board may amend the terms of any one or more Awards without the affected Participant's consent (A) to maintain the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code, (B) to change the terms of an Incentive Stock Option, if such change results in impairment of the Award solely because it impairs the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code, (C) to clarify the manner of exemption from, or to bring the Award into compliance with, Section 409A of the Code, or (D) to comply with other applicable laws or listing requirements.

(ix) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan and/or Award Agreements.

(x) To adopt such procedures and sub-plans as are necessary or appropriate (A) to permit or facilitate participation in the Plan by Employees, Directors or Consultants who are foreign nationals or employed outside the United States or (B) allow Awards to qualify for special tax treatment in a foreign jurisdiction; *provided* that Board approval will not be necessary for immaterial modifications to the Plan or any Award Agreement that are required for compliance with the laws of the relevant foreign jurisdiction.

(xi) To effect, with the consent of any adversely affected Participant, (A) the reduction of the exercise, purchase or strike price of any outstanding Stock Award; (B) the cancellation of any outstanding Stock Award and the grant in substitution therefore of a new (1) Option or SAR, (2) Restricted Stock Award, (3) Restricted Stock Unit Award, (4) Other Stock Award, (5) cash award and/or (6) award of other valuable consideration determined by the Board, in its sole discretion, with any such substituted award (x) covering the same or a different number of shares of Common Stock as the cancelled Stock Award and (y) granted under the Plan or another equity or compensatory plan of the Company; or (C) any other action that is treated as a repricing under generally accepted accounting principles.

(c) Delegation to Committee.

(i) General. The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration of the Plan is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee of the Committee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to the Committee or subcommittee). Any delegation of administrative powers will be reflected in resolutions, not inconsistent with the provisions of the Plan, adopted from time to time by the Board or Committee (as applicable). The Committee may, at any time,

abolish the subcommittee and/or revest in the Committee any powers delegated to the subcommittee. The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, revest in the Board some or all of the powers previously delegated.

(ii) Section 162(m) and Rule 16b-3 Compliance. The Committee may consist solely of two or more Outside Directors, in accordance with Section 162(m) of the Code, or solely of two or more Non-Employee Directors, in accordance with Rule 16b-3 of the Exchange Act.

(d) Delegation to an Officer. The Board may delegate to one (1) or more Officers the authority to do one or both of the following: (i) designate Employees who are not Officers to be recipients of Options and SARs (and, to the extent permitted by applicable law, other Stock Awards) and, to the extent permitted by applicable law, the terms of such Awards; and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Employees; *provided, however*, that the Board resolutions regarding such delegation will specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Any such Stock Awards will be granted on the form of Stock Award Agreement most recently approved for use by the Committee or the Board, unless otherwise provided for in the resolutions approving the delegation authority. The Board may not delegate authority to an Officer who is acting solely in the capacity of an Officer (and not also as a Director) to determine the Fair Market Value (as defined below).

(e) Effect of Board's Decision. All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

3. SHARES SUBJECT TO THE PLAN.

(a) Share Reserve.

(i) Subject to Section 9(a) relating to Capitalization Adjustments and the "evergreen" provision in Section 3(a)(ii), the aggregate number of shares of Common Stock that may be issued pursuant to Stock Awards from and after the Effective Date will not exceed 3,526,153 shares (the "***Share Reserve***"). The Share Reserve includes (A) 1,076,923 new shares, (B) the 1,561,736 shares that represented the Prior Plans' Available Reserve on the Effective Date, and (C) the Returning Shares, if any, in an amount not to exceed 887,494 shares (if and when the Returning Shares ever become available for grant under this Plan).

(ii) The Share Reserve will automatically increase on January 1st of each year, for a period of not more than ten years, commencing on January 1st of the year following the year in which the IPO Date occurs and ending on (and including) January 1, 2024, in an amount equal to 5% of the total number of shares of Company capital stock outstanding on December 31st of the preceding calendar year. Notwithstanding the foregoing, the Board may act prior to January 1st of a given year to provide that there will be no January 1st increase in the Share Reserve for such year or that the increase in the Share Reserve for such year will be a lesser number of shares of Common Stock than would otherwise occur pursuant to the preceding sentence.

(iii) For clarity, the Share Reserve is a limitation on the number of shares of Common Stock that may be issued under to the Plan. As a single share may be subject to grant more than once (*e.g.*, if a share subject to a Stock Award is forfeited, it may be made subject to grant again as provided in Section 3(b) below), the Share Reserve is not a limit on the number of Stock Awards that can be granted.

(iv) Shares may be issued under the terms of this Plan in connection with a merger or acquisition as permitted by NASDAQ Listing Rule 5635(c), NYSE Listed Company Manual Section 303A.08, AMEX Company Guide Section 711 or other applicable rule, and such issuance will not reduce the number of shares available for issuance under the Plan.

(b) Reversion of Shares to the Share Reserve. If a Stock Award or any portion of a Stock Award (i) expires or otherwise terminates without all of the shares covered by the Stock Award having been issued or (ii) is settled in cash (*i.e.*, the Participant receives cash rather than stock), such expiration, termination or settlement will not reduce (or otherwise offset) the number of shares of Common Stock that are available for issuance under the Plan. If any shares of Common Stock issued under a Stock Award are forfeited back to or repurchased by the Company because of the failure to meet a contingency or condition required to vest such shares in the Participant, then the shares that are forfeited or repurchased will revert to and again become available for issuance under the Plan. Any shares reacquired by the Company in satisfaction of tax withholding obligations on a Stock Award or as consideration for the exercise or purchase price of a Stock Award will again become available for issuance under the Plan.

(c) Incentive Stock Option Limit. Subject to Section 9(a) relating to Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued on the exercise of Incentive Stock Options will be 11,538,461 shares of Common Stock.

(d) Section 162(m) Limitations. Subject to the provisions of Section 9(a) relating to Capitalization Adjustments, at such time as the Company may be subject to the applicable provisions of Section 162(m) of the Code, the following limitations shall apply.

(i) A maximum of 1,538,461 shares of Common Stock subject to Options, SARs and Other Stock Awards whose value is determined by reference to an increase over an exercise or strike price of at least 100% of the Fair Market Value on the date the Stock Award is granted may be granted to any one Participant during any one calendar year. Notwithstanding the foregoing, if any additional Options, SARs or Other Stock Awards whose value is determined by reference to an increase over an exercise or strike price of at least 100% of the Fair Market Value on the date the Stock Award are granted to any Participant during any calendar year, compensation attributable to the exercise of such additional Stock Awards will not satisfy the requirements to be considered "qualified performance-based compensation" under Section 162(m) of the Code unless such additional Stock Award is approved by the Company's stockholders.

(ii) A maximum of 1,538,461 shares of Common Stock subject to Performance Stock Awards may be granted to any one Participant during any one calendar year (whether the grant, vesting or exercise is contingent upon the attainment during the Performance Period of the Performance Goals).

(iii) A maximum of $2,000,000 may be granted as a Performance Cash Award to any one Participant during any one calendar year.

(e) Source of Shares. The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

4. ELIGIBILITY.

(a) Eligibility for Specific Stock Awards. Incentive Stock Options may be granted only to employees of the Company or a "parent corporation" or "subsidiary corporation" thereof (as such terms are defined in Sections 424(e) and 424(f) of the Code). Stock Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants; *provided, however*, that Stock Awards may not

be granted to Employees, Directors and Consultants who are providing Continuous Service only to any "parent" of the Company, as such term is defined in Rule 405 of the Securities Act, unless (i) the stock underlying such Stock Awards is treated as "service recipient stock" under Section 409A of the Code (for example, because the Stock Awards are granted pursuant to a corporate transaction such as a spin off transaction), or (ii) the Company, in consultation with its legal counsel, has determined that such Stock Awards are otherwise exempt from or comply with the distribution requirements of Section 409A of the Code.

(b) Ten Percent Stockholders. A Ten Percent Stockholder will not be granted an Incentive Stock Option unless the exercise price of such Option is at least 110% of the Fair Market Value on the date of grant and the Option is not exercisable after the expiration of five (5) years from the date of grant.

5. PROVISIONS RELATING TO OPTIONS AND STOCK APPRECIATION RIGHTS.

Each Option or SAR will be in such form and will contain such terms and conditions as the Board deems appropriate. All Options will be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate certificate or certificates will be issued for shares of Common Stock purchased on exercise of each type of Option. If an Option is not specifically designated as an Incentive Stock Option, or if an Option is designated as an Incentive Stock Option but some portion or all of the Option fails to qualify as an Incentive Stock Option under the applicable rules, then the Option (or portion thereof) will be a Nonstatutory Stock Option. The provisions of separate Options or SARs need not be identical; *provided, however*, that each Award Agreement will conform to (through incorporation of provisions hereof by reference in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(a) Term. Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, no Option or SAR will be exercisable after the expiration of 10 years from the date of its grant or such shorter period specified in the Award Agreement.

(b) Exercise Price. Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, the exercise or strike price of each Option or SAR will be not less than 100% of the Fair Market Value of the Common Stock subject to the Option or SAR on the date the Award is granted. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise or strike price lower than 100% of the Fair Market Value of the Common Stock subject to the Award if such Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Section 409A of the Code and, if applicable, Section 424(a) of the Code. Each SAR will be denominated in shares of Common Stock equivalents.

(c) Purchase Price for Options. The purchase price of Common Stock acquired pursuant to the exercise of an Option may be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board will have the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to use a particular method of payment. The permitted methods of payment are as follows:

(i) by cash, check, bank draft or money order payable to the Company;

(ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of the stock subject to the Option, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds;

(iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;

(iv) if an Option is a Nonstatutory Stock Option, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; *provided, however*, that the Company will accept cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued. Shares of Common Stock will no longer be subject to an Option and will not be exercisable thereafter to the extent that (A) shares issuable upon exercise are used to pay the exercise price pursuant to the "net exercise," (B) shares are delivered to the Participant as a result of such exercise, and (C) shares are withheld to satisfy tax withholding obligations; or

(v) in any other form of legal consideration that may be acceptable to the Board and specified in the applicable Award Agreement.

(d) Exercise and Payment of a SAR. To exercise any outstanding SAR, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Appreciation Right Agreement evidencing such SAR. The appreciation distribution payable on the exercise of a SAR will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the SAR) of a number of shares of Common Stock equal to the number of Common Stock equivalents in which the Participant is vested under such SAR (with respect to which the Participant is exercising the SAR on such date), over (B) the aggregate strike price of the number of Common Stock equivalents with respect to which the Participant is exercising the SAR on such date. The appreciation distribution may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and contained in the Award Agreement evidencing such SAR.

(e) Transferability of Options and SARs. The Board may, in its sole discretion, impose such limitations on the transferability of Options and SARs as the Board will determine. In the absence of such a determination by the Board to the contrary, the following restrictions on the transferability of Options and SARs will apply:

(i) Restrictions on Transfer. An Option or SAR will not be transferable except by will or by the laws of descent and distribution (or pursuant to subsections (ii) and (iii) below), and will be exercisable during the lifetime of the Participant only by the Participant. The Board may permit transfer of the Option or SAR in a manner that is not prohibited by applicable tax and securities laws. Except as explicitly provided herein, neither an Option nor a SAR may be transferred for consideration.

(ii) Domestic Relations Orders. Subject to the approval of the Board or a duly authorized Officer, an Option or SAR may be transferred pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument as permitted by U.S. Treasury Regulation 1.421-1(b)(2). If an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.

(iii) Beneficiary Designation. Subject to the approval of the Board or a duly authorized Officer, a Participant may, by delivering written notice to the Company, in a form approved by the Company (or the designated broker), designate a third party who, on the death of the Participant, will

thereafter be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. In the absence of such a designation, the executor or administrator of the Participant's estate will be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. However, the Company may prohibit designation of a beneficiary at any time, including due to any conclusion by the Company that such designation would be inconsistent with the provisions of applicable laws.

(f) Vesting Generally. The total number of shares of Common Stock subject to an Option or SAR may vest and therefore become exercisable in periodic installments that may or may not be equal. The Option or SAR may be subject to such other terms and conditions on the time or times when it may or may not be exercised (which may be based on the satisfaction of Performance Goals or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options or SARs may vary. The provisions of this Section 5(f) are subject to any Option or SAR provisions governing the minimum number of shares of Common Stock as to which an Option or SAR may be exercised.

(g) Termination of Continuous Service. Except as otherwise provided in the applicable Award Agreement, or other agreement between the Participant and the Company, if a Participant's Continuous Service terminates (other than for Cause and other than upon the Participant's death or Disability), the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Award as of the date of termination of Continuous Service) within the period of time ending on the earlier of (i) the date three (3) months following the termination of the Participant's Continuous Service and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR within the applicable time frame, the Option or SAR will terminate.

(h) Extension of Termination Date. Except as otherwise provided in the applicable Award Agreement, if the exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause and other than upon the Participant's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option or SAR will terminate on the earlier of (i) the expiration of a total period of three (3) months (that need not be consecutive) after the termination of the Participant's Continuous Service during which the exercise of the Option or SAR would not be in violation of such registration requirements, and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement. In addition, unless otherwise provided in a Participant's applicable Award Agreement, if the sale of any Common Stock received upon exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause) would violate the Company's insider trading policy, then the Option or SAR will terminate on the earlier of (i) the expiration of a period of months (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service during which the sale of the Common Stock received upon exercise of the Option or SAR would not be in violation of the Company's insider trading policy, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement.

(i) Disability of Participant. Except as otherwise provided in the applicable Award Agreement, or other agreement between the Participant and the Company, if a Participant's Continuous Service terminates as a result of the Participant's Disability, the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date 12 months following such termination of Continuous Service, and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR within the applicable time frame, the Option or SAR (as applicable) will terminate.

(j) Death of Participant. Except as otherwise provided in the applicable Award Agreement, or other agreement between the Participant and the Company, if (i) a Participant's Continuous Service terminates as a result of the Participant's death, or (ii) the Participant dies within the period (if any) specified in the applicable Award Agreement for exercisability after the termination of the Participant's Continuous Service (for a reason other than death), then the Option or SAR may be exercised (to the extent the Participant was entitled to exercise such Option or SAR as of the date of death) by the Participant's estate, by a person who acquired the right to exercise the Option or SAR by bequest or inheritance or by a person designated to exercise the Option or SAR upon the Participant's death, but only within the period ending on the earlier of (i) the date 18 months following the date of death, and (ii) the expiration of the term of such Option or SAR as set forth in the applicable Award Agreement. If, after the Participant's death, the Option or SAR is not exercised within the applicable time frame, the Option or SAR will terminate.

(k) Termination for Cause. Except as explicitly provided otherwise in a Participant's Award Agreement or other individual written agreement between the Company or any Affiliate and the Participant, if a Participant's Continuous Service is terminated for Cause, the Option or SAR will terminate upon the date on which the event giving rise to the termination for Cause first occurred, and the Participant will be prohibited from exercising his or her Option or SAR from and after the date on which the event giving rise to the termination for Cause first occurred (or, if required by law, the date of termination of Continuous Service). If a Participant's Continuous Service is suspended pending an investigation of the existence of Cause, all of the Participant's rights under the Option or SAR will also be suspended during the investigation period.

(l) Non-Exempt Employees. If an Option or SAR is granted to an Employee who is a non-exempt employee for purposes of the U.S. Fair Labor Standards Act of 1938, as amended, the Option or SAR will not be first exercisable for any shares of Common Stock until at least 6 months following the date of grant of the Option or SAR (although the Award may vest prior to such date). Consistent with the provisions of the U.S. Worker Economic Opportunity Act, (i) if such non-exempt Employee dies or suffers a Disability, (ii) upon a Corporate Transaction in which such Option or SAR is not assumed, continued, or substituted, (iii) upon a Change in Control, or (iv) upon the non-exempt Employee's retirement (as such term may be defined in the non-exempt Employee's applicable Award Agreement, in another agreement between the non-exempt Employee and the Company, or, if no such definition, in accordance with the Company's then current employment policies and guidelines), the vested portion of any Options and SARs may be exercised earlier than 6 months following the date of grant. The foregoing provision is intended to operate so that any income derived by a non-exempt Employee in connection with the exercise or vesting of an Option or SAR will be exempt from his or her regular rate of pay. To the extent permitted and/or required for compliance with the U.S. Worker Economic Opportunity Act to ensure that any income derived by a non-exempt Employee in connection with the exercise, vesting or issuance of any shares under any other Stock Award will be exempt from such employee's regular rate of pay, the provisions of this paragraph will apply to all Stock Awards and are hereby incorporated by reference into such Stock Award Agreements.

6. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS AND SARS.

(a) Restricted Stock Awards. Each Restricted Stock Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. To the extent consistent with the Company's bylaws, at the Board's election, shares of Common Stock may be (x) held in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock

Award lapse, or (y) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. The terms and conditions of Restricted Stock Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Award Agreements need not be identical. Each Restricted Stock Award Agreement will conform to (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. A Restricted Stock Award may be awarded in consideration for (A) cash, check, bank draft or money order payable to the Company, (B) past services to the Company or an Affiliate, or (C) any other form of legal consideration (including future services) that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) Vesting. Shares of Common Stock awarded under the Restricted Stock Award Agreement may be subject to forfeiture to the Company in accordance with a vesting schedule to be determined by the Board.

(iii) Termination of Participant's Continuous Service. If a Participant's Continuous Service terminates, the Company may receive through a forfeiture condition or a repurchase right, any or all of the shares of Common Stock held by the Participant that have not vested as of the date of termination of Continuous Service under the terms of the Restricted Stock Award Agreement.

(iv) Transferability. Rights to acquire shares of Common Stock under the Restricted Stock Award Agreement will be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award Agreement, as the Board will determine in its sole discretion, so long as Common Stock awarded under the Restricted Stock Award Agreement remains subject to the terms of the Restricted Stock Award Agreement.

(v) Dividends. A Restricted Stock Award Agreement may provide that any dividends paid on Restricted Stock will be subject to the same vesting and forfeiture restrictions as apply to the shares subject to the Restricted Stock Award to which they relate.

(b) Restricted Stock Unit Awards. Each Restricted Stock Unit Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. The terms and conditions of Restricted Stock Unit Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Unit Award Agreements need not be identical. Each Restricted Stock Unit Award Agreement will conform to (through incorporation of the provisions hereof by reference in the Agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. At the time of grant of a Restricted Stock Unit Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Restricted Stock Unit Award. The consideration to be paid (if any) by the Participant for each share of Common Stock subject to a Restricted Stock Unit Award may be paid in any form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) Vesting. At the time of the grant of a Restricted Stock Unit Award, the Board may impose such restrictions on or conditions to the vesting of the Restricted Stock Unit Award as it, in its sole discretion, deems appropriate.

(iii) Payment. A Restricted Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and contained in the Restricted Stock Unit Award Agreement.

(iv) Additional Restrictions. At the time of the grant of a Restricted Stock Unit Award, the Board, as it deems appropriate, may impose such restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Restricted Stock Unit Award to a time after the vesting of such Restricted Stock Unit Award.

(v) Dividend Equivalents. Dividend equivalents may be credited in respect of shares of Common Stock covered by a Restricted Stock Unit Award, as determined by the Board and contained in the Restricted Stock Unit Award Agreement. At the sole discretion of the Board, such dividend equivalents may be converted into additional shares of Common Stock covered by the Restricted Stock Unit Award in such manner as determined by the Board. Any additional shares covered by the Restricted Stock Unit Award credited by reason of such dividend equivalents will be subject to all of the same terms and conditions of the underlying Restricted Stock Unit Award Agreement to which they relate.

(vi) Termination of Participant's Continuous Service. Except as otherwise provided in the applicable Restricted Stock Unit Award Agreement, such portion of the Restricted Stock Unit Award that has not vested will be forfeited upon the Participant's termination of Continuous Service.

(c) Performance Awards.

(i) Performance Stock Awards. A Performance Stock Award is a Stock Award (covering a number of shares not in excess of that set forth in Section 3(d) above) that is payable (including that may be granted, vest or exercised) contingent upon the attainment during a Performance Period of certain Performance Goals. A Performance Stock Award may, but need not, require the completion of a specified period of Continuous Service. The length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by the Committee (or, if not required for compliance with Section 162(m) of the Code, the Board), in its sole discretion. In addition, to the extent permitted by applicable law and the applicable Award Agreement, the Board may determine that cash may be used in payment of Performance Stock Awards.

(ii) Performance Cash Awards. A Performance Cash Award is a cash award (for a dollar value not in excess of that set forth in Section 3(d)(iii) above) that is payable contingent upon the attainment during a Performance Period of certain Performance Goals. A Performance Cash Award may also require the completion of a specified period of Continuous Service. At the time of grant of a Performance Cash Award, the length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by the Committee (or, if not required for compliance with Section 162(m) of the Code, the Board), in its sole discretion. The Board may specify the form of payment of Performance Cash Awards, which may be cash or other property, or may provide for a Participant to have the option for his or her Performance Cash Award, or such portion thereof as the Board may specify, to be paid in whole or in part in cash or other property.

(iii) Board Discretion. The Board retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for a Performance Period.

(iv) Section 162(m) Compliance. Unless otherwise permitted in compliance with the requirements of Section 162(m) of the Code with respect to an Award intended to qualify as "performance-based compensation" thereunder, the Committee will establish the Performance Goals applicable to, and the formula for calculating the amount payable under, the Award no later than the earlier of (A) the date 90 days after the commencement of the applicable Performance Period, and (B) the date on which 25% of the Performance Period has elapsed, and in any event at a time when the achievement of the applicable Performance Goals remains substantially uncertain. Prior to the payment of any compensation under an Award intended to qualify as "performance-based compensation" under Section 162(m) of the Code, the Committee will certify in writing the extent to which any Performance Goals and any other material terms under such Award have been satisfied (other than in cases where such relate solely to the increase in the value of the Common Stock). Notwithstanding satisfaction of any completion of any Performance Goals, the number of shares of Common Stock, Options, cash or other benefits granted, issued, retainable and/or vested under an Award on account of satisfaction of such Performance Goals may be reduced by the Committee on the basis of such further considerations as the Committee, in its sole discretion, will determine.

(d) Other Stock Awards. Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock, including the appreciation in value thereof (*e.g.*, options or stock rights with an exercise price or strike price less than 100% of the Fair Market Value of the Common Stock at the time of grant) may be granted either alone or in addition to Stock Awards provided for under Section 5 and the preceding provisions of this Section 6. Subject to the provisions of the Plan, the Board will have sole and complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards.

7. COVENANTS OF THE COMPANY.

(a) Availability of Shares. The Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy then-outstanding Stock Awards.

(b) Securities Law Compliance. The Company will seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; *provided, however,* that this undertaking will not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained. A Participant will not be eligible for the grant of an Award or the subsequent issuance of cash or Common Stock pursuant to the Award if such grant or issuance would be in violation of any applicable securities law.

(c) No Obligation to Notify or Minimize Taxes. The Company will have no duty or obligation to any Participant to advise such holder as to the time or manner of exercising such Stock Award. Furthermore, the Company will have no duty or obligation to warn or otherwise advise such holder of a pending termination or expiration of an Award or a possible period in which the Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of an Award to the holder of such Award.

8. MISCELLANEOUS.

(a) Use of Proceeds from Sales of Common Stock. Proceeds from the sale of shares of Common Stock pursuant to Stock Awards will constitute general funds of the Company.

(b) Corporate Action Constituting Grant of Awards. Corporate action constituting a grant by the Company of an Award to any Participant will be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate, or letter evidencing the Award is communicated to, or actually received or accepted by, the Participant. In the event that the corporate records (*e.g.*, Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (*e.g.*, exercise price, vesting schedule or number of shares) that are inconsistent with those in the Award Agreement as a result of a clerical error in the papering of the Award Agreement, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Award Agreement.

(c) Stockholder Rights. No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to a Stock Award unless and until (i) such Participant has satisfied all requirements for exercise of, or the issuance of shares of Common Stock under, the Stock Award pursuant to its terms, and (ii) the issuance of the Common Stock subject to such Stock Award has been entered into the books and records of the Company.

(d) No Employment or Other Service Rights. Nothing in the Plan, any Award Agreement or any other instrument executed thereunder or in connection with any Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Award was granted or will affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, including, but not limited to, Cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(e) Change in Time Commitment. In the event a Participant's regular level of time commitment in the performance of his or her services for the Company and any Affiliates is reduced (for example, and without limitation, if the Participant is an Employee of the Company and the Employee has a change in status from a full-time Employee to a part-time Employee or takes an extended leave of absence) after the date of grant of any Award to the Participant, the Board has the right in its sole discretion to (i) make a corresponding reduction in the number of shares or cash amount subject to any portion of such Award that is scheduled to vest or become payable after the date of such change in time commitment, and (ii) in lieu of or in combination with such a reduction, extend the vesting or payment schedule applicable to such Award. In the event of any such reduction, the Participant will have no right with respect to any portion of the Award that is so reduced or extended.

(f) Incentive Stock Option Limitations. To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds $100,000 (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the order in which they were granted) or otherwise do not comply with such rules will be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(g) Investment Assurances. The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Stock Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Stock Award, and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Stock Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, will be inoperative if (i) the issuance of the shares upon the exercise of a Stock Award or acquisition of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act, or (ii) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(h) Withholding Obligations. Unless prohibited by the terms of an Award Agreement, the Company may, in its sole discretion, satisfy any U.S. federal, state, local, foreign or other tax withholding obligation relating to an Award by any of the following means or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Award; *provided, however*, that no shares of Common Stock are withheld with a value exceeding the minimum amount of tax required to be withheld by law (or such other amount as may be necessary to avoid classification of the Stock Award as a liability for financial accounting purposes); (iii) withholding cash from an Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant, including proceeds from the sale of shares of Common Stock issued pursuant to a Stock Award; or (v) by such other method as may be set forth in the Award Agreement.

(i) Electronic Delivery. Any reference herein to a "written" agreement or document will include any agreement or document delivered electronically, filed publicly at www.sec.gov (or any successor website thereto), or posted on the Company's intranet (or other shared electronic medium controlled by the Company to which the Participant has access).

(j) Deferrals. To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A of the Code (to the extent applicable to a Participant). Consistent with Section 409A of the Code, the Board may provide for distributions while a Participant is still an employee or otherwise providing services to the Company. The Board is authorized to make deferrals of Awards and determine when, and in what annual percentages, Participants may receive payments, including lump sum payments, following the Participant's termination of Continuous Service, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

(k) Compliance with Section 409A. Unless otherwise expressly provided for in an Award Agreement, the Plan and Award Agreements will be interpreted to the greatest extent possible in a manner that makes the Plan and the Awards granted hereunder exempt from Section 409A of the Code, and, to the extent not so exempt, in compliance with Section 409A of the Code. If the Board determines that any Award granted hereunder is not exempt from and is therefore subject to Section 409A of the

Code, the Award Agreement evidencing such Award will incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code, and to the extent an Award Agreement is silent on terms necessary for compliance, such terms are hereby incorporated by reference into the Award Agreement. Notwithstanding anything to the contrary in this Plan (and unless the Award Agreement specifically provides otherwise), if the shares of Common Stock are publicly traded, and if a Participant holding an Award that constitutes "deferred compensation" under Section 409A of the Code is a "specified employee" for purposes of Section 409A of the Code, no distribution or payment of any amount that is due because of a "separation from service" (as defined in Section 409A of the Code without regard to alternative definitions thereunder) will be issued or paid before the date that is six (6) months following the date of such Participant's "separation from service" or, if earlier, the date of the Participant's death, unless such distribution or payment can be made in a manner that complies with Section 409A of the Code, and any amounts so deferred will be paid in a lump sum on the day after such six (6) month period elapses, with the balance paid thereafter on the original schedule.

(l) Clawback/Recovery. All Awards granted under the Plan will be subject to recoupment in accordance with any clawback policy that the Company is required to adopt pursuant to the listing standards of any national securities exchange or association on which the Company's securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Board may impose such other clawback, recovery or recoupment provisions in an Award Agreement as the Board determines necessary or appropriate, including, but not limited to, a reacquisition right in respect of previously acquired shares of Common Stock or other cash or property upon the occurrence of Cause. No recovery of compensation under such a clawback policy will be an event giving rise to a right to resign for "good reason" or "constructive termination" (or similar term) under any agreement with the Company or an Affiliate.

9. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; OTHER CORPORATE EVENTS.

(a) Capitalization Adjustments. In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a); (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 3(c); (iii) the class(es) and maximum number of securities that may be awarded to any person pursuant to Section 3(d) and (iv) the class(es) and number of securities and price per share of stock subject to outstanding Stock Awards. The Board will make such adjustments, and its determination will be final, binding and conclusive.

(b) Dissolution or Liquidation. Except as otherwise provided in the Stock Award Agreement, in the event of a dissolution or liquidation of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to the Company's repurchase rights or subject to a forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service; *provided, however,* that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Stock Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

(c) Corporate Transaction. The following provisions will apply to Stock Awards in the event of a Corporate Transaction unless otherwise provided in the instrument evidencing the Stock Award or any other written agreement between the Company or any Affiliate and the Participant or unless otherwise expressly provided by the Board at the time of grant of a Stock Award. In the event of a

Corporate Transaction, then, notwithstanding any other provision of the Plan, the Board will take one or more of the following actions with respect to Stock Awards, contingent upon the closing or completion of the Corporate Transaction:

(i) arrange for the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) to assume or continue the Stock Award or to substitute a similar stock award for the Stock Award (including, but not limited to, an award to acquire the same consideration paid to the stockholders of the Company pursuant to the Corporate Transaction);

(ii) arrange for the assignment of any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to the Stock Award to the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company);

(iii) accelerate the vesting, in whole or in part, of the Stock Award (and, if applicable, the time at which the Stock Award may be exercised) to a date prior to the effective time of such Corporate Transaction as the Board will determine (or, if the Board will not determine such a date, to the date that is 5 days prior to the effective date of the Corporate Transaction), with such Stock Award terminating if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction;

(iv) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by the Company with respect to the Stock Award;

(v) cancel or arrange for the cancellation of the Stock Award, to the extent not vested or not exercised prior to the effective time of the Corporate Transaction, in exchange for such cash consideration, if any, as the Board, in its sole discretion, may consider appropriate; and

(vi) cancel or arrange for the cancellation of the Stock Award, to the extent not vested or not exercised prior to the effective time of the Corporate Transaction, in exchange for a payment, in such form as may be determined by the Board equal to the excess, if any, of (A) the value of the property the Participant would have received upon the exercise of the Stock Award immediately prior to the effective time of the Corporate Transaction, over (B) any exercise price payable by such holder in connection with such exercise.

The Board need not take the same action or actions with respect to all Stock Awards or portions thereof or with respect to all Participants. The Board may take different actions with respect to the vested and unvested portions of a Stock Award.

In the absence of any affirmative determination by the Board at the time of a Corporate Transaction, each outstanding Stock Award will be assumed or an equivalent Stock Award will be substituted by such successor corporation or a parent or subsidiary of such successor corporation (the "***Successor Corporation***"), unless the Successor Corporation does not agree to assume the Stock Award or to substitute an equivalent Stock Award, in which case such Stock Award will terminate upon the consummation of the transaction.

(d) Change in Control. A Stock Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Stock Award Agreement for such Stock Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant, but in the absence of such provision, no such acceleration will occur.

10. TERMINATION OR SUSPENSION OF THE PLAN.

The Board may suspend or terminate the Plan at any time. No Awards may be granted after the tenth (10th) anniversary of the earlier of (i) the date the Plan is adopted by the Board (the "***Effective Date***"), or (ii) the date the Plan is approved by the stockholders of the Company. No Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

11. EFFECTIVE DATE OF PLAN; TIMING OF FIRST GRANT OR EXERCISE.

The Plan came into existence on the Effective Date. No Stock Award may be exercised (or, in the case of a Restricted Stock Award, Restricted Stock Unit Award, Performance Stock Award, or Other Stock Award, may be granted) and no Performance Cash Award may be settled unless and until the Plan has been approved by the stockholders of the Company, which approval will be within 12 months after the Effective Date.

12. CHOICE OF LAW.

The laws of the State of Delaware will govern all questions concerning the construction, validity and interpretation of this Plan, without regard to that state's conflict of laws rules.

13. DEFINITIONS. As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) "***Affiliate***" means, at the time of determination, any "parent" or "subsidiary" of the Company, as such terms are defined in Rule 405 of the Securities Act. The Board will have the authority to determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

(b) "***Award***" means a Stock Award or a Performance Cash Award.

(c) "***Award Agreement***" means a written agreement between the Company and a Participant evidencing the terms and conditions of an Award.

(d) "***Board***" means the Board of Directors of the Company.

(e) "***Capitalization Adjustment***" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Stock Award after the Adoption Date without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other similar equity restructuring transaction, as that term is used in Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(f) "***Cause***" will have the meaning ascribed to such term in any written agreement between the Participant and the Company or any Affiliate defining such term and, in the absence of such agreement, such term means, with respect to a Participant, the occurrence of any of the following events: (i) Participant's willful failure substantially to perform his or her duties and responsibilities to the Company or any Affiliate or deliberate violation of a policy of the Company or any Affiliate; (ii) Participant's commission of any act of fraud, embezzlement, dishonesty or any other willful

misconduct that has caused or is reasonably expected to result in material injury to the Company or any Affiliate; (iii) unauthorized use or disclosure by Participant of any proprietary information or trade secrets of the Company or any other party to whom the Participant owes an obligation of nondisclosure as a result of his or her relationship with the Company or any Affiliate; or (iv) Participant's willful breach of any of his or her obligations under any written agreement or covenant with the Company or any Affiliate. The determination as to whether a Participant is being terminated for Cause will be made in good faith by the Company and will be final and binding on the Participant. Any determination by the Company that the Continuous Service of a Participant was terminated with or without Cause for the purposes of outstanding Awards held by such Participant will have no effect upon any determination of the rights or obligations of the Company, any Affiliate or such Participant for any other purpose.

(g) "***Change in Control***" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control will not be deemed to occur (A) on account of the acquisition of securities of the Company directly from the Company, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company's securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities or (C) solely because the level of Ownership held by any Exchange Act Person (the "***Subject Person***") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control will be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than 50% of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or (B) more than 50% of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than 50% of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

(iv) individuals who, on the Effective Date, are members of the Board (the "***Incumbent Board***") cease for any reason to constitute at least a majority of the members of the Board;

provided, however, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member will, for purposes of this Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing definition or any other provision of this Plan, (A) the term Change in Control will not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company, and (B) the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant will supersede the foregoing definition with respect to Awards subject to such agreement; *provided, however,* that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition will apply.

If required for compliance with Section 409A of the Code, in no event will a Change in Control be deemed to have occurred if such transaction is not also a "change in the ownership or effective control of" the Company or "a change in the ownership of a substantial portion of the assets of" the Company as determined under U.S. Treasury Regulation Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder). The Board may, in its sole discretion and without a Participant's consent, amend the definition of "Change in Control" to conform to the definition of "Change in Control" under Section 409A of the Code, and the regulations thereunder.

(h) "***Code***" means the U.S. Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(i) "***Committee***" means a committee of one (1) or more Directors to whom authority has been delegated by the Board in accordance with Section 2(c).

(j) "***Common Stock***" means the common stock of the Company.

(k) "***Company***" means Atara Biotherapeutics, Inc., a Delaware corporation.

(l) "***Consultant***" means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a "Consultant" for purposes of the Plan. Notwithstanding the foregoing, a person is treated as a Consultant under this Plan only if a Form S-8 Registration Statement under the Securities Act is available to register either the offer or the sale of the Company's securities to such person.

(m) "***Continuous Service***" means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Consultant or Director or a change in the Entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant's service with the Company or an Affiliate, will not terminate a Participant's Continuous Service. For example, a change in status from an Employee of the Company to a Consultant of an Affiliate or to a Director will not constitute an interruption of Continuous Service. If the Entity for which a Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board in its sole discretion, such Participant's Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. To the extent permitted by law, the Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of

absence approved by the Board or chief executive officer, including sick leave, military leave or any other personal leave, or (ii) transfers between the Company, an Affiliate, or their successors. In addition, if required for exemption from or compliance with Section 409A of the Code, the determination of whether there has been a termination of Continuous Service will be made, and such term will be construed, in a manner that is consistent with the definition of "separation from service" as defined under U.S. Treasury Regulation Section 1.409A-1(h) (without regard to any alternative definition thereunder). A leave of absence will be treated as Continuous Service for purposes of vesting in a Stock Award only to such extent as may be provided in the Company's leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by law.

(n) "***Corporate Transaction***" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of at least 90% of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

To the extent required for compliance with Section 409A of the Code, in no event will an event be deemed a Corporate Transaction if such transaction is not also a "change in the ownership or effective control of" the Company or "a change in the ownership of a substantial portion of the assets of" the Company as determined under U.S. Treasury Regulation Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder).

(o) "***Covered Employee***" will have the meaning provided in Section 162(m)(3) of the Code.

(p) "***Director***" means a member of the Board.

(q) "***Disability***" means, with respect to a Participant, the inability of such Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than 12 months as provided in Sections 22(e)(3) and 409A(a)(2)(C)(i) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

(r) "***Effective Date***" is defined in Section 10 of the Plan.

(s) "***Employee***" means any person providing services as an employee of the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

(t) "***Entity***" means a corporation, partnership, limited liability company or other entity.

(u) "***Exchange Act***" means the U.S. Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(v) "***Exchange Act Person***" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" will not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to a registered public offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company, or (v) any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the Effective Date, is the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities.

(w) "***Fair Market Value***" means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value of a share of Common Stock will be, unless otherwise determined by the Board, the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in a source the Board deems reliable.

(ii) Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing selling price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, the Fair Market Value will be determined by the Board in good faith and in a manner that complies with Sections 409A and 422 of the Code.

(x) "***Incentive Stock Option***" means an option granted pursuant to Section 5 of the Plan that is intended to be, and that qualifies as, an "incentive stock option" within the meaning of Section 422 of the Code.

(y) "***IPO Date***" means the date of the underwriting agreement between the Company and the underwriters(s) managing the initial public offering of the Common Stock, pursuant to which the Common Stock is priced for the initial public offering (the "***IPO***").

(z) "***Non-Employee Director***" means a Director who either (i) is not a current employee or officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act ("***Regulation S-K***")), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation S-K, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation S-K; or (ii) is otherwise considered a "non-employee director" for purposes of Rule 16b-3 of the Exchange Act.

(aa) "***Nonstatutory Stock Option***" means any option granted pursuant to Section 5 of the Plan that does not qualify as an Incentive Stock Option.

(bb) "***Officer***" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act.

(cc) "***Option***" means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(dd) "***Option Agreement***" means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an Option grant. Each Option Agreement will be subject to the terms and conditions of the Plan.

(ee) "***Optionholder***" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(ff) "***Other Stock Award***" means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 6(d).

(gg) "***Other Stock Award Agreement***" means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement will be subject to the terms and conditions of the Plan.

(hh) "***Outside Director***" means a Director who either (i) is not a current employee of the Company or an "affiliated corporation" (within the meaning of U.S. Treasury Regulations promulgated under Section 162(m) of the Code), is not a former employee of the Company or an "affiliated corporation" who receives compensation for prior services (other than benefits under a tax-qualified retirement plan) during the taxable year, has not been an officer of the Company or an "affiliated corporation," and does not receive remuneration from the Company or an "affiliated corporation," either directly or indirectly, in any capacity other than as a Director, or (ii) is otherwise considered an "outside director" for purposes of Section 162(m) of the Code

(ii) "***Own***," "***Owned***," "***Owner***," "***Ownership***" means a person or Entity will be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(jj) "***Participant***" means a person to whom an Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Stock Award.

(kk) "***Performance Cash Award***" means an award of cash granted pursuant to the terms and conditions of Section 6(c)(ii).

(ll) "***Performance Criteria***" means the one or more criteria that the Board will select for purposes of establishing the Performance Goals for a Performance Period. The Performance Criteria that will be used to establish such Performance Goals may be based on any one of, or combination of, the following as determined by the Board: (1) profit before tax; (2) billings; (3) revenue; (4) net revenue; (5) earnings (which may include earnings before interest and taxes, earnings before taxes, and net earnings); (6) operating income; (7) operating margin; (8) operating profit; (9) controllable operating profit, or net operating profit; (10) net profit; (11) gross margin; (12) operating expenses or operating

expenses as a percentage of revenue; (13) net income; (14) earnings per share; (15) total stockholder return; (16) market share; (17) return on assets or net assets; (18) the Company's stock price; (19) growth in stockholder value relative to a pre-determined index; (20) return on equity; (21) return on invested capital; (22) cash flow (including free cash flow or operating cash flows); (23) cash conversion cycle; (24) economic value added; (25) individual confidential business objectives; (26) contract awards or backlog; (27) overhead or other expense reduction; (28) credit rating; (29) strategic plan development and implementation; (30) succession plan development and implementation; (31) improvement in workforce diversity; (32) customer indicators; (33) new product invention or innovation; (34) attainment of research and development milestones; (35) improvements in productivity; (36) bookings; (37) initiation of phases of clinical trials and/or studies by specified dates; (38) regulatory body approval with respect to products, studies and/or trials; (39) patient enrollment dates; (40) commercial launch of products; and (41) to the extent that an Award is not intended to comply with Section 162(m) of the Code, other measures of performance selected by the Board.

(mm) "***Performance Goals***" means, for a Performance Period, the one or more goals established by the Board for the Performance Period based upon the Performance Criteria. Performance Goals may be based on a Company-wide basis, with respect to one or more business units, divisions, Affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise by the Board (i) in the Award Agreement at the time the Award is granted or (ii) in such other document setting forth the Performance Goals at the time the Performance Goals are established, the Board will appropriately make adjustments in the method of calculating the attainment of Performance Goals for a Performance Period as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of any "extraordinary items" as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by the Company achieved performance objectives at targeted levels during the balance of a Performance Period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of common stock of the Company by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under the Company's bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to expensed under generally accepted accounting principles; (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles; (12) to exclude the effect of any other unusual, non-recurring gain or loss or other extraordinary item; (13) to exclude the effects of the timing of acceptance for review and/or approval of submissions to the Food and Drug Administration or any other regulatory body; and (14) to exclude the effects of entering into or achieving milestones involved in licensing joint ventures. In addition, the Board retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for such Performance Period. Partial achievement of the specified criteria may result in the payment or vesting corresponding to the degree of achievement as specified in the Stock Award Agreement or the written terms of a Performance Cash Award.

(nn) "***Performance Period***" means the period of time selected by the Board over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Participant's right to and the payment of a Stock Award or a Performance Cash Award. Performance Periods may be of varying and overlapping duration, at the sole discretion of the Board.

(oo) "***Performance Stock Award***" means a Stock Award granted under the terms and conditions of Section 6(c)(i).

(pp) "***Plan***" means this Atara Biotherapeutics, Inc. 2014 Equity Incentive Plan.

(qq) "***Restricted Stock Award***" means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(a).

(rr) "***Restricted Stock Award Agreement***" means a written agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Agreement will be subject to the terms and conditions of the Plan.

(ss) "***Restricted Stock Unit Award***" means a right to receive shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(b).

(tt) "***Restricted Stock Unit Award Agreement***" means a written agreement between the Company and a holder of a Restricted Stock Unit Award evidencing the terms and conditions of a Restricted Stock Unit Award grant. Each Restricted Stock Unit Award Agreement will be subject to the terms and conditions of the Plan.

(uu) "***Securities Act***" means the U.S. Securities Act of 1933, as amended.

(vv) "***Stock Appreciation Right***" or "***SAR***" means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 5.

(ww) "***Stock Appreciation Right Agreement***" means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement will be subject to the terms and conditions of the Plan.

(xx) "***Stock Award***" means any right to receive Common Stock granted under the Plan, including an Incentive Stock Option, a Nonstatutory Stock Option, a Restricted Stock Award, a Restricted Stock Unit Award, a Stock Appreciation Right, a Performance Stock Award, or any Other Stock Award.

(yy) "***Stock Award Agreement***" means a written agreement between the Company and a Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement will be subject to the terms and conditions of the Plan.

(zz) "***Subsidiary***" means, with respect to the Company, (i) any corporation of which more than 50% of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than 50%.

(aaa) "***Ten Percent Stockholder***" means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or any Affiliate

Exhibit 10.8

ATARA BIOTHERAPEUTICS, INC.

2014 EMPLOYEE STOCK PURCHASE PLAN

1. GENERAL; PURPOSE.

(a) The Plan provides a means by which Eligible Employees of the Company and certain designated Related Corporations may be given an opportunity to purchase shares of Common Stock. The Plan permits the Company to grant a series of Purchase Rights to Eligible Employees under an Employee Stock Purchase Plan.

(b) The Company, by means of the Plan, seeks to retain the services of such Employees, to secure and retain the services of new Employees and to provide incentives for such persons to exert maximum efforts for the success of the Company and its Related Corporations.

2. ADMINISTRATION.

(a) The Board will administer the Plan unless and until the Board delegates administration of the Plan to a Committee or Committees, as provided in Section 2(c).

(b) The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine how and when Purchase Rights will be granted and the provisions of each Offering (which need not be identical).

(ii) To designate from time to time which Related Corporations of the Company will be eligible to participate in the Plan.

(iii) To construe and interpret the Plan and Purchase Rights, and to establish, amend and revoke rules and regulations for its administration. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan, in a manner and to the extent it deems necessary or expedient to make the Plan fully effective.

(iv) To settle all controversies regarding the Plan and Purchase Rights granted under the Plan.

(v) To suspend or terminate the Plan at any time as provided in Section 12.

(vi) To amend the Plan at any time as provided in Section 12.

(vii) Generally, to exercise such powers and to perform such acts as it deems necessary or expedient to promote the best interests of the Company and its Related Corporations and to carry out the intent that the Plan be treated as an Employee Stock Purchase Plan.

(viii) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Employees who are foreign nationals or employed outside the United States.

(c) The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to the Committee or subcommittee), subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, revest in the Board some or all of the powers previously delegated. Whether or not the Board has delegated administration of the Plan to a Committee, the Board will have the final power to determine all questions of policy and expediency that may arise in the administration of the Plan.

(d) All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

3. SHARES OF COMMON STOCK SUBJECT TO THE PLAN.

(a) Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, the maximum number of shares of Common Stock that may be issued under the Plan will not exceed 230,769 shares of Common Stock, plus the number of shares of Common Stock that are automatically added on January 1st of each year for a period of up to ten years, commencing on the first January 1 following the IPO Date and ending on (and including) January 1, 2024, in an amount equal to the lesser of (i) 1% of the total number of shares of Capital Stock outstanding on December 31st of the preceding calendar year, and (ii) 230,769 shares of Common Stock. Notwithstanding the foregoing, the Board may act prior to the first day of any calendar year to provide that there will be no January 1st increase in the share reserve for such calendar year or that the increase in the share reserve for such calendar year will be a lesser number of shares of Common Stock than would otherwise occur pursuant to the preceding sentence.

(b) If any Purchase Right granted under the Plan terminates without having been exercised in full, the shares of Common Stock not purchased under such Purchase Right will again become available for issuance under the Plan.

(c) The stock purchasable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market.

4. GRANT OF PURCHASE RIGHTS; OFFERING.

(a) The Board may from time to time grant or provide for the grant of Purchase Rights to Eligible Employees under an Offering (consisting of one or more Purchase Periods) on an Offering Date or Offering Dates selected by the Board. Each Offering will be in such form and will contain such terms and conditions as the Board will deem appropriate, and will comply

with the requirement of Section 423(b)(5) of the Code that all Employees granted Purchase Rights will have the same rights and privileges. The terms and conditions of an Offering shall be incorporated by reference into the Plan and treated as part of the Plan. The provisions of separate Offerings need not be identical, but each Offering will include (through incorporation of the provisions of this Plan by reference in the document comprising the Offering or otherwise) the period during which the Offering will be effective, which period will not exceed 27 months beginning with the Offering Date, and the substance of the provisions contained in Sections 5 through 8, inclusive.

(b) If a Participant has more than one Purchase Right outstanding under the Plan, unless he or she otherwise indicates in forms delivered to the Company: (i) each form will apply to all of his or her Purchase Rights under the Plan, and (ii) a Purchase Right with a lower exercise price (or an earlier-granted Purchase Right, if different Purchase Rights have identical exercise prices) will be exercised to the fullest possible extent before a Purchase Right with a higher exercise price (or a later-granted Purchase Right if different Purchase Rights have identical exercise prices) will be exercised.

(c) The Board will have the discretion to structure an Offering so that if the Fair Market Value of a share of Common Stock on the first Trading Day of a new Purchase Period within that Offering is less than or equal to the Fair Market Value of a share of Common Stock on the Offering Date for that Offering, then (i) that Offering will terminate immediately as of that first Trading Day, and (ii) the Participants in such terminated Offering will be automatically enrolled in a new Offering beginning on the first Trading Day of such new Purchase Period.

5. ELIGIBILITY.

(a) Purchase Rights may be granted only to Employees of the Company or, as the Board may designate in accordance with Section 2(b), to Employees of a Related Corporation. Except as provided in Section 5(b), an Employee will not be eligible to be granted Purchase Rights unless, on the Offering Date, the Employee has been in the employ of the Company or the Related Corporation, as the case may be, for such continuous period preceding such Offering Date as the Board may require, but in no event will the required period of continuous employment be equal to or greater than two years. In addition, the Board may provide that no Employee will be eligible to be granted Purchase Rights under the Plan unless, on the Offering Date, such Employee's customary employment with the Company or the Related Corporation is more than 20 hours per week and more than five months per calendar year or such other criteria as the Board may determine consistent with Section 423 of the Code.

(b) The Board may provide that each person who, during the course of an Offering, first becomes an Eligible Employee will, on a date or dates specified in the Offering which coincides with the day on which such person becomes an Eligible Employee or which occurs thereafter, receive a Purchase Right under that Offering, which Purchase Right will thereafter be deemed to be a part of that Offering. Such Purchase Right will have the same characteristics as any Purchase Rights originally granted under that Offering, as described herein, except that:

(i) the date on which such Purchase Right is granted will be the "Offering Date" of such Purchase Right for all purposes, including determination of the exercise price of such Purchase Right;

(ii) the period of the Offering with respect to such Purchase Right will begin on its Offering Date and end coincident with the end of such Offering; and

(iii) the Board may provide that if such person first becomes an Eligible Employee within a specified period of time before the end of the Offering, he or she will not receive any Purchase Right under that Offering.

(c) No Employee will be eligible for the grant of any Purchase Rights if, immediately after any such Purchase Rights are granted, such Employee owns stock possessing five percent or more of the total combined voting power or value of all classes of stock of the Company or of any Related Corporation. For purposes of this Section 5(c), the rules of Section 424(d) of the Code will apply in determining the stock ownership of any Employee, and stock which such Employee may purchase under all outstanding Purchase Rights and options will be treated as stock owned by such Employee.

(d) As specified by Section 423(b)(8) of the Code, an Eligible Employee may be granted Purchase Rights only if such Purchase Rights, together with any other rights granted under all Employee Stock Purchase Plans of the Company and any Related Corporations, do not permit such Eligible Employee's rights to purchase stock of the Company or any Related Corporation to accrue at a rate which exceeds $25,000 of Fair Market Value of such stock (determined at the time such rights are granted, and which, with respect to the Plan, will be determined as of their respective Offering Dates) for each calendar year in which such rights are outstanding at any time.

(e) Officers of the Company and any designated Related Corporation, if they are otherwise Eligible Employees, will be eligible to participate in Offerings under the Plan. Notwithstanding the foregoing, the Board may provide in an Offering that Employees who are highly compensated Employees within the meaning of Section 423(b)(4)(D) of the Code will not be eligible to participate.

6. PURCHASE RIGHTS; PURCHASE PRICE.

(a) On each Offering Date, each Eligible Employee, pursuant to an Offering made under the Plan, will be granted a Purchase Right to purchase up to that number of shares of Common Stock purchasable either with a percentage or with a maximum dollar amount, as designated by the Board, but in either case not exceeding 15% of such Employee's earnings (as defined by the Board in each Offering) during the period that begins on the Offering Date (or such later date as the Board determines for a particular Offering) and ends on the date stated in the Offering, which date will be no later than the end of the Offering.

(b) The Board will establish one or more Purchase Dates during an Offering on which Purchase Rights granted for that Offering will be exercised and shares of Common Stock will be purchased in accordance with such Offering.

(c) In connection with each Offering made under the Plan, the Board may specify (i) a maximum number of shares of Common Stock that may be purchased by any Participant on any Purchase Date during such Offering, (ii) a maximum aggregate number of shares of Common Stock that may be purchased by all Participants pursuant to such Offering and/or (iii) a maximum aggregate number of shares of Common Stock that may be purchased by all Participants on any Purchase Date under the Offering. If the aggregate purchase of shares of Common Stock issuable upon exercise of Purchase Rights granted under the Offering would exceed any such maximum aggregate number, then, in the absence of any Board action otherwise, a pro rata (based on each Participant's accumulated Contributions) allocation of the shares of Common Stock available will be made in as nearly a uniform manner as will be practicable and equitable.

(d) The purchase price of shares of Common Stock acquired pursuant to Purchase Rights will be not less than the lesser of:

(i) an amount equal to 85% of the Fair Market Value of the shares of Common Stock on the Offering Date; or

(ii) an amount equal to 85% of the Fair Market Value of the shares of Common Stock on the applicable Purchase Date.

7. PARTICIPATION; WITHDRAWAL; TERMINATION.

(a) An Eligible Employee may elect to authorize payroll deductions as the means of making Contributions by completing and delivering to the Company, within the time specified in the Offering, an enrollment form provided by the Company. The enrollment form will specify the amount of Contributions not to exceed the maximum amount specified by the Board. Each Participant's Contributions will be credited to a bookkeeping account for such Participant under the Plan and will be deposited with the general funds of the Company except where applicable law requires that Contributions be deposited with a third party. If permitted in the Offering, a Participant may begin such Contributions with the first payroll occurring on or after the Offering Date (or, in the case of a payroll date that occurs after the end of the prior Offering but before the Offering Date of the next new Offering, Contributions from such payroll will be included in the new Offering). If permitted in the Offering, a Participant may thereafter reduce (including to zero) or increase his or her Contributions. If specifically provided in the Offering, in addition to making Contributions by payroll deductions, a Participant may make Contributions through the payment by cash or check prior to a Purchase Date.

(b) During an Offering, a Participant may cease making Contributions and withdraw from the Offering by delivering to the Company a withdrawal form provided by the Company. The Company may impose a deadline before a Purchase Date for withdrawing. Upon such withdrawal, such Participant's Purchase Right in that Offering will immediately terminate and the Company will distribute to such Participant all of his or her accumulated but unused Contributions and such Participant's Purchase Right in that Offering shall thereupon terminate. A Participant's withdrawal from that Offering will have no effect upon his or her eligibility to participate in any other Offerings under the Plan, but such Participant will be required to deliver a new enrollment form to participate in subsequent Offerings.

(c) Purchase Rights granted pursuant to any Offering under the Plan will terminate immediately if the Participant either (i) is no longer an Employee for any reason or for no reason (subject to any post-employment participation period required by law) or (ii) is otherwise no longer eligible to participate. The Company will distribute to such individual all of his or her accumulated but unused Contributions.

(d) During a Participant's lifetime, Purchase Rights will be exercisable only by such Participant. Purchase Rights are not transferable by a Participant, except by will, by the laws of descent and distribution, or, if permitted by the Company, by a beneficiary designation as described in Section 10.

(e) Unless otherwise specified in the Offering, the Company will have no obligation to pay interest on Contributions.

8. EXERCISE OF PURCHASE RIGHTS.

(a) On each Purchase Date, each Participant's accumulated Contributions will be applied to the purchase of shares of Common Stock, up to the maximum number of shares of Common Stock permitted by the Plan and the applicable Offering, at the purchase price specified in the Offering. No fractional shares will be issued unless specifically provided for in the Offering.

(b) If any amount of accumulated Contributions remains in a Participant's account after the purchase of shares of Common Stock and such remaining amount is less than the amount required to purchase one share of Common Stock on the final Purchase Date of an Offering, then such remaining amount will be held in such Participant's account for the purchase of shares of Common Stock under the next Offering under the Plan, unless such Participant withdraws from or is not eligible to participate in such Offering, in which case such amount will be distributed to such Participant after the final Purchase Date, without interest. If the amount of Contributions remaining in a Participant's account after the purchase of shares of Common Stock is at least equal to the amount required to purchase one whole share of Common Stock on the final Purchase Date of an Offering, then such remaining amount will not roll over to the next Offering and will instead be distributed in full to such Participant after the final Purchase Date of such Offering without interest.

(c) No Purchase Rights may be exercised to any extent unless the shares of Common Stock to be issued upon such exercise under the Plan are covered by an effective registration statement pursuant to the Securities Act and the Plan is in material compliance with all applicable federal, state, foreign and other securities and other laws applicable to the Plan. If on a Purchase Date the shares of Common Stock are not so registered or the Plan is not in such compliance, no Purchase Rights will be exercised on such Purchase Date, and the Purchase Date will be delayed until the shares of Common Stock are subject to such an effective registration statement and the Plan is in material compliance, except that the Purchase Date will in no event be more than 6 months from the Offering Date. If, on the Purchase Date, as delayed to the maximum extent permissible, the shares of Common Stock are not registered and the Plan is not in material compliance with all applicable laws, no Purchase Rights will be exercised and all accumulated but unused Contributions will be distributed to the Participants without interest.

9. COVENANTS OF THE COMPANY.

The Company will seek to obtain from each federal, state, foreign or other regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Purchase Rights and issue and sell shares of Common Stock thereunder. If, after commercially reasonable efforts, the Company is unable to obtain the authority that counsel for the Company deems necessary for the grant of Purchase Rights or the lawful issuance and sale of Common Stock under the Plan, and at a commercially reasonable cost, the Company will be relieved from any liability for failure to grant Purchase Rights and/or to issue and sell Common Stock upon exercise of such Purchase Rights.

10. DESIGNATION OF BENEFICIARY.

(a) The Company may, but is not obligated to, permit a Participant to submit a form designating a beneficiary who will receive any shares of Common Stock and/or Contributions from the Participant's account under the Plan if the Participant dies before such shares and/or Contributions are delivered to the Participant. The Company may, but is not obligated to, permit the Participant to change such designation of beneficiary. Any such designation and/or change must be on a form approved by the Company.

(b) If a Participant dies, and in the absence of a valid beneficiary designation, the Company will deliver any shares of Common Stock and/or Contributions to the executor or administrator of the estate of the Participant. If no executor or administrator has been appointed (to the knowledge of the Company), the Company, in its sole discretion, may deliver such shares of Common Stock and/or Contributions to the Participant's spouse, dependents or relatives, or if no spouse, dependent or relative is known to the Company, then to such other person as the Company may designate.

11. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; CORPORATE TRANSACTIONS.

(a) In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a), (ii) the class(es) and maximum number of securities by which the share reserve is to increase automatically each year pursuant to Section 3(a), (iii) the class(es) and number of securities subject to, and the purchase price applicable to outstanding Offerings and Purchase Rights, and (iv) the class(es) and number of securities that are the subject of the purchase limits under each ongoing Offering. The Board will make these adjustments, and its determination will be final, binding and conclusive.

(b) In the event of a Corporate Transaction, then: (i) any surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) may assume or continue outstanding Purchase Rights or may substitute similar rights (including a right to acquire the same consideration paid to the stockholders in the Corporate Transaction) for outstanding Purchase Rights, or (ii) if any surviving or acquiring corporation (or its parent company) does not assume or continue such Purchase Rights or does not substitute similar rights for such Purchase Rights, then the Participants' accumulated Contributions will be used to purchase shares of Common Stock within ten business days prior to the Corporate Transaction under the outstanding Purchase Rights, and the Purchase Rights will terminate immediately after such purchase.

12. AMENDMENT, TERMINATION OR SUSPENSION OF THE PLAN.

(a) The Board may amend the Plan at any time in any respect the Board deems necessary or advisable. However, except as provided in Section 11(a) relating to Capitalization Adjustments, stockholder approval will be required for any amendment of the Plan for which stockholder approval is required by applicable law or listing requirements, including any amendment that either (i) materially increases the number of shares of Common Stock available for issuance under the Plan, (ii) materially expands the class of individuals eligible to become Participants and receive Purchase Rights, (iii) materially increases the benefits accruing to Participants under the Plan or materially reduces the price at which shares of Common Stock may be purchased under the Plan, (iv) materially extends the term of the Plan, or (v) expands the types of awards available for issuance under the Plan, but in each of (i) through (v) above only to the extent stockholder approval is required by applicable law or listing requirements.

(b) The Board may suspend or terminate the Plan at any time. No Purchase Rights may be granted under the Plan while the Plan is suspended or after it is terminated.

(c) Any benefits, privileges, entitlements and obligations under any outstanding Purchase Rights granted before an amendment, suspension or termination of the Plan will not be materially impaired by any such amendment, suspension or termination except (i) with the consent of the person to whom such Purchase Rights were granted, (ii) as necessary to comply with any laws, listing requirements, or governmental regulations (including, without limitation, the provisions of Section 423 of the Code and the regulations and other interpretive guidance issued thereunder relating to Employee Stock Purchase Plans) including without limitation any such regulations or other guidance that may be issued or amended after the date the Plan is adopted by the Board, or (iii) as necessary to obtain or maintain favorable tax, listing, or regulatory treatment. To be clear, the Board may amend outstanding Purchase Rights without a Participant's consent if such amendment is necessary to ensure that the Purchase Right and/or the Plan complies with the requirements of Section 423 of the Code.

13. EFFECTIVE DATE OF PLAN.

The Plan will become effective immediately prior to and contingent upon the IPO Date. No Purchase Rights will be exercised unless and until the Plan has been approved by the stockholders of the Company, which approval must be within 12 months before or after the date the Plan is adopted (or if required under Section 12(a) above, materially amended) by the Board.

14. MISCELLANEOUS PROVISIONS.

(a) Proceeds from the sale of shares of Common Stock pursuant to Purchase Rights will constitute general funds of the Company.

(b) A Participant will not be deemed to be the holder of, or to have any of the rights of a holder with respect to, shares of Common Stock subject to Purchase Rights unless and until the Participant's shares of Common Stock acquired upon exercise of Purchase Rights are recorded in the books of the Company (or its transfer agent).

(c) The Plan and Offering do not constitute an employment contract. Nothing in the Plan or in the Offering will in any way alter the at will nature of a Participant's employment or be deemed to create in any way whatsoever any obligation on the part of any Participant to continue in the employ of the Company or a Related Corporation, or on the part of the Company or a Related Corporation to continue the employment of a Participant.

(d) The provisions of the Plan will be governed by the laws of the State of California without resort to that state's conflicts of laws rules.

15. DEFINITIONS.

As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) "***Board***" means the Board of Directors of the Company.

(b) "***Capital Stock***" means each and every class of common stock of the Company, regardless of the number of votes per share.

(c) "***Capitalization Adjustment***" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Purchase Right after the date the Plan is adopted by the Board without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other similar equity restructuring transaction, as that term is used in Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(d) "***Code***" means the Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder

(e) "***Committee***" means a committee of one or more members of the Board to whom authority has been delegated by the Board in accordance with Section 2(c).

(f) "***Common Stock***" means, as of the IPO Date, the common stock of the Company, having 1 vote per share.

(g) "***Company***" means Atara Biotherapeutics, Inc., a Delaware corporation.

(h) ***"Contributions***" means the payroll deductions and other additional payments specifically provided for in the Offering that a Participant contributes to fund the exercise of a Purchase Right. A Participant may make additional payments into his or her account if specifically provided for in the Offering, and then only if the Participant has not already had the maximum permitted amount withheld during the Offering through payroll deductions.

(i) "***Corporate Transaction***" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of at least 90% of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(j) "***Director***" means a member of the Board.

(k) "***Eligible Employee***" means an Employee who meets the requirements set forth in the document(s) governing the Offering for eligibility to participate in the Offering, provided that such Employee also meets the requirements for eligibility to participate set forth in the Plan.

(l) "***Employee***" means any person, including an Officer or Director, who is "employed" for purposes of Section 423(b)(4) of the Code by the Company or a Related Corporation. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

(m) "***Employee Stock Purchase Plan***" means a plan that grants Purchase Rights intended to be options issued under an "employee stock purchase plan," as that term is defined in Section 423(b) of the Code.

(n) "***Exchange Act***" means the Securities Exchange Act of 1934, as amended and the rules and regulations promulgated thereunder.

(o) "***Fair Market Value***" means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value of a share of Common Stock will be the **closing sales price** for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) **on the date of determination**, as reported in such source as the Board deems reliable. Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing sales price on the last preceding date for which such quotation exists.

(ii) In the absence of such markets for the Common Stock, the Fair Market Value will be determined by the Board in good faith in compliance with applicable laws and in a manner that complies with Sections 409A of the Code.

(iii) Notwithstanding the foregoing, for any Offering that commences on the IPO Date, the Fair Market Value of the shares of Common Stock on the Offering Date will be the price per share at which shares are first sold to the public in the Company's initial public offering as specified in the final prospectus for that initial public offering.

(p) "***IPO Date***" means the date of the underwriting agreement between the Company and the underwriter(s) managing the initial public offering of the Common Stock, pursuant to which the Common Stock is priced for the initial public offering.

(q) "***Offering***" means the grant to Eligible Employees of Purchase Rights, with the exercise of those Purchase Rights automatically occurring at the end of one or more Purchase Periods. The terms and conditions of an Offering will generally be set forth in the "***Offering Document***" approved by the Board for that Offering.

(r) "***Offering Date***" means a date selected by the Board for an Offering to commence.

(s) "***Officer***" means a person who is an officer of the Company or a Related Corporation within the meaning of Section 16 of the Exchange Act.

(t) "***Participant***" means an Eligible Employee who holds an outstanding Purchase Right.

(u) "***Plan***" means this Atara Biotherapeutics, Inc. 2014 Employee Stock Purchase Plan.

(v) "***Purchase Date***" means one or more dates during an Offering selected by the Board on which Purchase Rights will be exercised and on which purchases of shares of Common Stock will be carried out in accordance with such Offering.

(w) "***Purchase Period***" means a period of time specified within an Offering, generally beginning on the Offering Date or on the first Trading Day following a Purchase Date, and ending on a Purchase Date. An Offering may consist of one or more Purchase Periods.

(x) "***Purchase Right***" means an option to purchase shares of Common Stock granted pursuant to the Plan.

(y) "***Related Corporation***" means any "parent corporation" or "subsidiary corporation" of the Company whether now or subsequently established, as those terms are defined in Sections 424(e) and (f), respectively, of the Code.

(z) "***Securities Act***" means the Securities Act of 1933, as amended.

(aa) "***Trading Day***" means any day on which the exchange(s) or market(s) on which shares of Common Stock are listed, including but not limited to the NYSE, Nasdaq Global Select Market, the Nasdaq Global Market, the Nasdaq Capital Market or any successors thereto, is open for trading.

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Exhibit 10.15

EXCLUSIVE LICENSE AGREEMENT

by and between

AMGEN INC.

and

NINA BIOSCIENCES, INC.

Dated as of September 7, 2012

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

LIST OF SCHEDULES

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EXCLUSIVE LICENSE AGREEMENT

This **EXCLUSIVE LICENSE AGREEMENT** (this **"Agreement"**) is entered into as of September 7, 2012 (the **"Signing Date"**) by and between **AMGEN INC.**, a Delaware corporation having an address at One Amgen Center Drive, Thousand Oaks, California 91320 (**"Amgen"**), and **NINA BIOSCIENCES, INC.**, a Delaware corporation (**"Company"**). Company and Amgen are sometimes referred to herein individually as a **"Party"** and collectively as the **"Parties"**.

RECITALS

WHEREAS, Amgen is a company engaged in the research, development, manufacturing and commercialization of pharmaceutical and biotechnology products;

WHEREAS, Amgen possesses certain rights to patents and other intellectual property related to its proprietary compounds AMG 842 and M43, comprising the respective amino acid sequences set forth on the Products Schedule (collectively, the **"Products"** and each individually, a **"Product"**);

WHEREAS, Company desires to license from Amgen such intellectual property rights, and to commercially develop, manufacture, use and distribute the Products based upon the same throughout the Territory (defined below); and

WHEREAS, Amgen desires to grant such a license to Company in accordance with the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual promises and covenants contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto agree as follows:

ARTICLE 1. DEFINITIONS

All references to particular Schedules, Articles or Sections shall mean the Schedules to, and Articles and Sections of, this Agreement, unless otherwise specified. For the purposes of this Agreement and the Schedules hereto, the following words and phrases shall have the following meanings:

"Abandoned Patent Right" has the meaning set forth in Section 4.2 (Amgen Step-In Right).

"Affiliate" means, with respect to any Person, any other Person which controls, is controlled by or is under common control with such Person, for as long as such control exists. For purposes of this Section, "control" means the direct or indirect ownership of more than fifty percent (50%) of the voting or economic interest of a Person, or the power, whether pursuant to contract, ownership of securities or otherwise, to direct the management and policies of a Person. For clarity, once a Person ceases to be an Affiliate of a Party, then, without any further action, such Person shall cease to have any rights, including license and sublicense rights, under this Agreement by reason of being an Affiliate of such Party.

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"Agreement" has the meaning set forth in the Preamble.

"Amgen" has the meaning set forth in the Preamble.

"Amgen Acquiree" has the meaning set forth in Section 11.9 (Sale Transaction or Amgen Acquisition).

"Amgen Acquisition" has the meaning set forth in Section 11.9 (Sale Transaction or Amgen Acquisition).

"Amgen Cell Line" shall mean that certain proprietary cell line that Amgen has developed for the generation of one of the Products. For avoidance of doubt, the Amgen Cell Line is Licensed Materials hereunder.

"Amgen Indemnified Parties" has the meaning set forth in Section 8.1.2 (By Company).

"Audited Party" has the meaning set forth in Section 3.9 (Records and Audits).

"BLA" means (a) a Biologics License Application, supplemental Biologics License Application, or similar application filed or to be filed with the FDA, as described in Title 21 of the U.S. Code of Federal Regulations, Part 601, *et seq.*, or (b) any corresponding foreign application in another country or regulatory jurisdiction in the Territory, including, in the case of the European Union, a Marketing Approval Application filed with the EMA pursuant to the centralized approval procedure or with the applicable Regulatory Authority of a country in the European Union with respect to the mutual recognition or any other national approval procedure.

"cGMP" means the FDA's current good manufacturing practices, as specified in 21 C.F.R. §§ 210 and 211 and the FDA's guidance documents and all successor regulations and guidance documents thereto, and foreign equivalents thereof with respect to the European Union and Canada.

"Closing Date" means the first date on which the Company sells Series A Preferred Stock and Series A-1 Preferred Stock to its initial investors, including Amgen.

"Commercially Reasonable Efforts" means those efforts and resources commensurate with those efforts commonly used in the biopharmaceutical industry by a company of comparable size in connection with the development or commercialization of biopharmaceutical products that are of similar status, including, with respect to commercial potential, the proprietary position of the product, the regulatory status and approval process, the probable profitability of the applicable product, and other relevant factors such as technical, legal, scientific or medical factors. In determining the level of efforts constituting **"Commercially Reasonable Efforts,"** the following shall [*].

"Company" has the meaning set forth in the Preamble.

"Company Indemnified Parties" has the meaning set forth in Section 8.1.1 (By Amgen).

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"Confidential Information" has the meaning set forth in Section 9.1.1 (Confidential Information).

"Control" or **"Controlled"** means, with respect to any Know-How, material, Patent Right, or other intellectual property right, the possession (whether by ownership or license) by a Party or its Affiliates of the ability to grant to the other Party a license or access as provided herein to such Know-How, material, Patent Right, or other intellectual property right, without violating the terms of any agreement or other arrangement with any Third Party, or being obligated to pay any royalties or other consideration therefor, in existence as of the time such Party or its Affiliates would first be required hereunder to grant the other Party such license or access.

"Cover" means (a) with respect to Licensed Know-How, the Exploitation of the product would require use of such Licensed Know-How, and (b) with respect to a Patent Right, a Valid Claim would (absent a license thereunder or ownership thereof) be Infringed by the Exploitation of the product; *provided* that in determining whether a Valid Claim that is a claim of a pending application would be Infringed, it shall be treated as if issued as then currently prosecuted. Cognates of the word **"Cover"** shall have correlative meanings.

"Defending Party" has the meaning set forth in Section 4.4 (Defense of Third Party Claims).

"Diligence Notice" has the meaning set forth in Section 5.2 (Diligence).

"Disclosing Party" has the meaning set forth in Section 9.1.1 (Confidential Information).

"Dispute" has the meaning set forth in Section 10.2.1(b).

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

"Enforcing Party" has the meaning set forth in Section 4.3.3 (Progress Reports; Participation).

"Exclusivity Period" has the meaning set forth in Section 2.3 (Right of First Negotiation).

"Exploit" means to research, develop, improve, make, use, offer for sale, sell, import, export or otherwise exploit, or transfer possession of or title in, a product. Cognates of the word **"Exploit"** shall have correlative meanings.

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

"Field" means any and all human and veterinary uses.

"First Commercial Sale" means, with respect to any Product in any country, the first sale to a Third Party for end use or consumption of such Product in such country after a BLA has been granted in such country for such Product.

"Framework Patents" means any Patent Right (other than a Licensed Patent) Controlled by Amgen or its Affiliates as of the Effective Date that: (i) has a claim that is infringed by the amino acid sequence of a Product, (ii) has a claim that is infringed by a nucleic acid sequence that encodes the amino acid sequence of a Product, or (iii) has a claim that claims Licensed Know How.

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"FTE" means the equivalent of the work of one employee full time for one year consisting of at least a total of [*] weeks or [*] hours per year (excluding vacations and holidays). No one person shall be permitted to account for more than one FTE.

"FTE Rate" means $[*] per FTE per year.

"GAAP" means the then-current generally accepted accounting principles in the United States as established by the Financial Accounting Standards Board or any successor entity or other entity generally recognized as having the right to establish such principles in the United States, in each case consistently applied. Unless otherwise defined or stated herein, financial terms shall be calculated under GAAP.

"Governmental Authority" means any court, agency, department, authority or other instrumentality of any national, state, county, city or other political subdivision.

"IND" means an Investigational New Drug Application filed with the FDA for human clinical testing of a drug or any foreign equivalent thereof.

"Indication" means the disease or condition for which an IND has been filed.

"Infringe" or **"Infringement"** means any infringement as determined by Law, including, without limitation, direct infringement, contributory infringement or any inducement to infringe.

"Issuing Party" has the meaning set forth in Section 9.2.2 (Review).

"Know-How" means techniques, technology, trade secrets, inventions (whether patentable or not), methods, know-how, data and results (including pharmacological, toxicological and clinical data and results), analytical and quality control data and results, regulatory documents, and other information, compositions of matter, cells, cell lines, assays, animal models and other physical, biological, or chemical material.

"Law" means, individually and collectively, any and all laws, ordinances, rules, directives, administrative circulars and regulations of any kind whatsoever of any Governmental Authority within the applicable jurisdiction.

"Licensed Know-How" means all Know-How that both (a) is Controlled by Amgen and (b) was actually used by Amgen in its development of the Products at such time as Amgen last actively developed the applicable Product prior to the Closing Date, including the Know-How set forth on the Licensed Know-How Schedule. [*]

"Licensed Materials" means those certain materials set forth on the Licensed Materials Schedule.

"Licensed Patents" means the Patent Rights set forth on the Licensed Patents Schedule.

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"Losses" has the meaning set forth in Section 8.1.1 (By Amgen).

"Marketing Approval" means all approvals, licenses, registrations or authorizations of the Regulatory Authority in a country, necessary for the manufacture, use, storage, import, marketing and sale of a Product in such country.

"Milestone Events" has the meaning set forth in Section 3.3 (Milestone Payments).

"Milestone Payments" has the meaning set forth in Section 3.3 (Milestone Payments).

"Negotiation Notice" has the meaning set forth in Section 2.3 (Right of First Negotiation).

"Net Sales" means, with respect to any Product, the gross sales price of such Product sold by Company, its Affiliates or Sublicensee(s) (the **"Selling Party"**) for the sale of such Product to Third Parties, less:

(a) non-recoverable sales taxes, excise taxes, use taxes, value-added tax, and duties paid by the Selling Party in relation to Product(s) and any other equivalent governmental charges imposed upon the importation, use or sale of Product(s) (excluding taxes when assessed on income derived from sales);

(b) credits and allowances (actually allowed or paid) for defective or returned Product(s), including allowances for spoiled, damaged, out-dated, rejected, returned, withdrawn or recalled Product(s);

(c) reasonable fees paid to wholesalers, distributors, selling agents (excluding any sales representatives of a Selling Party), group purchasing organizations, Third Party payors, other contractees and managed care entities;

(d) reasonable transportation charges relating to Product(s), including handling charges and insurance premiums relating thereto to the extent included as a separate entry on the invoice for such product (*provided* that [*] items in this clause (d) shall [*] for the relevant period);

(e) retroactive price reductions actually granted to the Third Party applicable to sales of such product;

(f) trade, cash, prompt payment and/or quantity discounts, actually allowed and taken directly by the Third Party, and mandated discounts; and

(g) refunds, rebates, chargebacks and other allowances or payments to Governmental Authorities.

Net Sales shall be determined from books and records maintained in accordance with GAAP, consistently applied throughout the organization and across all products of the entity whose sales of Products are giving rise to Net Sales.

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Where a Product is sold in combination with other therapeutically active ingredients, the Net Sales applicable to such transaction shall be calculated by multiplying the total Net Sales of such combined product by the fraction A/(A+B), where A is the actual price of the Product in the same dosage amount or quantities in the applicable country during the applicable quarter if sold separately, and B is the sum of the actual prices of all other therapeutics with which the Product is combined, in the same dosage amount or quantities in the applicable country during the applicable quarter if sold separately. If A or B cannot be determined because values for the Product or other therapeutics with which the Product is combined are not available separately in a particular country, then Amgen and Company shall discuss an appropriate allocation for the fair market value of the Product and other therapeutics with which the Product is combined to mutually determine Net Sales for the relevant transactions based on an equitable method of determining the same that takes into account, in the Territory, variations in potency, the relative contribution of each therapeutically active ingredient, and relative value to the end user of each therapeutically active ingredient.

Net Sales shall also include, with respect to any Product sold or otherwise disposed of for any consideration other than an exclusively monetary consideration on bona fide arm's length terms, an amount equal to the average sales price for such Product having the same dosage form and strength during the applicable reporting period in the country where such sale or other disposal occurred when such Product is sold alone and not with other products, or if such Product is not sold alone in such country during the applicable reporting period, then an amount equal to the average sales price during the applicable reporting period generally achieved for such Product having the same dosage form and strength in the rest of the Territory.

Sales of Product(s) between or among Company and its Affiliates or Sublicensees shall be excluded from the computation of Net Sales and no payments shall be payable on such sales except where such Affiliates or Sublicensees are end users.

"Out-License" has the meaning set forth in Section 2.3 (Right of First Negotiation).

"Party" has the meaning set forth in the Preamble.

"Patent Rights" means any provisional and non-provisional patents and patent applications, together with all additions, divisions, continuations, continuations-in-part, substitutions, reissues, re-examinations, issued patents, substitutes, foreign counterparts, extensions, registrations, patent term extensions, supplemental protection certificates, renewals and the like with respect to any of the foregoing.

"Permitted CMO" means (a) a Third Party commercial manufacturing organization identified on the attached Permitted CMO Schedule (and all such Third Party's Affiliates), as such schedule may be updated by mutual written agreement by the Parties from time to time or (b) any other party deemed to be a Permitted CMO pursuant to the terms of Section 2.4.2.

"Permitted CMO Agreement" has the meaning set forth in Section 2.4.2(a) (Transfer of Licensed Know-How and Licensed Materials).

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"Permitted CMO Request" has the meaning set forth in Section 2.4.2(d) (Transfer of Licensed Know-How and Licensed Materials).

"Person" means any corporation, limited or general partnership, limited liability company, joint venture, trust, unincorporated association, governmental body, authority, bureau or agency, any other entity or body, or an individual.

"Phase 1 Clinical Trial" means any human clinical trial of a Product that satisfies the requirements of 21 C.F.R. § 312.21(a), or its successor regulation, or its non-United States equivalents, including the portion of a combination Phase 1 Clinical Trial and Phase 2 Clinical Trial that is the Phase 1 component, in accordance with the applicable protocol and as reasonably designated by Company.

"Phase 2 Clinical Trial" means any human clinical trial of a Product that satisfies the requirements of 21 C.F.R. § 312.21(b), or its successor regulation, or its non-United States equivalents, including the portion of a combination Phase 2 Clinical Trial and Phase 3 Clinical Trial that is the Phase 2 component, in accordance with the applicable protocol and as reasonably designated by Company.

"Phase 3 Clinical Trial" means any human clinical trial of a Product that satisfies the requirements of 21 C.F.R. § 312.21(c), or its successor regulation, or its non-United States equivalents, including the portion of a combination Phase 2 Clinical Trial and Phase 3 Clinical Trial that is the Phase 3 component, in accordance with the applicable protocol and as reasonably designated by Company.

"Pivotal Trial" means (a) a Phase 2 Clinical Trial, or a combination Phase 2 Clinical Trial and Phase 3 Clinical Trial, that (taken together with any other trials completed prior to or concurrently with such trial) is intended to support Marketing Approval for a Product by the relevant Regulatory Authority in the indication under study, or (b) a Phase 3 Clinical Trial.

"Pre-Existing Agreements" means those agreements listed on the Pre-Existing Agreements Schedule.

"Product(s)" has the meaning set forth in the Recitals.

"Receiving Party" has the meaning set forth in Section 9.1.1 (Confidential Information).

"Regulatory Authority" means any Governmental Authority or other authority responsible for granting Marketing Approvals for Products, including the FDA, EMA and any corresponding national or regional regulatory authorities.

"Regulatory Change" has the meaning set forth in Section 5.2 (Diligence).

"Regulatory Exclusivity" means, with respect to a Product in a country, any exclusive marketing rights or data exclusivity rights conferred by the applicable Regulatory Authority in such country with respect to the Product, other than a Patent Right.

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"Regulatory Filing" means any filing with any Governmental Authority with respect to the research, development, manufacture, distribution, pricing, reimbursement, marketing or sale of a Product.

"Release" has the meaning set forth in Section 9.2.2 (Review).

"Reviewing Party" has the meaning set forth in Section 9.2.2 (Review).

"Royalty Term" has the meaning set forth in Section 3.4 (Royalties).

"Sale Transaction" has the meaning set forth in Section 11.8 (Successors and Assigns).

"Selling Party" has the meaning set forth in the definition of "Net Sales".

"Signing Date" has the meaning set forth in the Preamble.

"Specified Diligence Failure" has the meaning set forth in Section 5.2 (Diligence).

"Sublicensee(s)" means any Person other than an Affiliate of Company to which Company has granted a sublicense under this Agreement.

"Summary" has the meaning set forth in Section 2.3 (Right of First Negotiation).

"Term" has the meaning set forth in Section 10.1 (Term).

"Terminated Product" means (a) in the event of a termination of this Agreement by Company pursuant to Section 10.3.2 (Discretionary Termination), the applicable terminated Products and (b) in the event of any other termination of this Agreement, all Products.

"Territory" means the entire world.

"Third Party" means a Person other than (a) Amgen or any of its Affiliates and (b) Company or any of its Affiliates.

"Third Party Acquirer" has the meaning set forth in Section 11.9 (Sale Transaction or Amgen Acquisition).

"Transaction Notice" has the meaning set forth in Section 2.3 (Right of First Negotiation).

"United States" or **"U.S."** means the United States of America (including the District of Columbia).

"Valid Claim" means a claim of any issued and unexpired patent or patent application within the Licensed Patents and that has not been held invalid or unenforceable by a final decision of a court or governmental agency of competent jurisdiction, which decision can no longer be appealed or was not appealed within the time allowed; *provided* that if a claim of a pending patent application within the Licensed Patents [*], such claim shall not constitute a Valid Claim for the purposes of this Agreement [*].

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ARTICLE 2. LICENSE GRANT; CLOSING

Section 2.1 Grant. Subject to the terms and conditions of this Agreement, commencing on the Closing Date, Amgen hereby grants to Company (a) an exclusive (even as to Amgen and its Affiliates), royalty bearing, sublicenseable (but only in accordance with Section 2.2 (Sublicenses) and Section 2.3 (Right of First Negotiation)), license under the Licensed Patents, (b) a non-exclusive, royalty bearing, sublicenseable (but only in accordance with Section 2.2 (Sublicenses) and Section 2.3 (Right of First Negotiation)) license under the Licensed Know-How, and (c) an exclusive (even as to Amgen and its Affiliates) license and right of reference, with the right to grant sublicenses and further rights of reference (but only in accordance with Section 2.2 (Sublicenses) and Section 2.3 (Right of First Negotiation)), under any existing Regulatory Filings that Amgen or any of its Affiliates Controls with respect to the Products; in each case, to Exploit Product(s) in the Field in the Territory during the Term. Notwithstanding the foregoing, the Licensed Know-How shall be sublicenseable only in connection with the rights of Company with respect to Products and not with respect to any other products or services.

2.1.1 Covenant Not to Sue. In addition to the licenses set forth in this Section 2.1 (Grant) above, commencing on the Closing Date, Amgen hereby covenants not to sue Company, its Affiliates or any Sublicensee under the Framework Patents with respect to the Exploitation of Products in the Field in the Territory. Subject to Section 11.8 (Successors and Assigns), the Company may transfer this Covenant Not to Sue. Amgen shall require any Amgen successor in interest to the Framework Patents to also covenant not to sue Company, its Affiliates or any Sublicensee under the Framework Patents with respect to the Exploitation of Products in the Field in the Territory. Should Amgen fail to secure such a covenant from a successor in interest, then immediately prior to the transfer of the Framework Patents to the successor in interest, Amgen will be deemed to have granted to Company a non-exclusive, fully paid-up, royalty-free, sublicenseable license under the Framework Patents to Exploit Product(s) in the Field in the Territory during the Term.

Section 2.2 Sublicenses. Subject to compliance by Company with its obligations under Section 2.3 (Right of First Negotiation) below, commencing on the Closing Date, the licenses granted in Section 2.1 (Grant) (including, if applicable, in the last sentence of Section 2.1.1 (Covenant Not to Sue)) may be sublicensed, in full or in part, by Company to its Affiliates and Third Parties (with the right to sublicense through multiple tiers), *provided* that as a condition precedent to and requirement of any such sublicense:

(a) Any such permitted sublicense shall be in writing and shall be consistent with and subject to the terms and conditions of this Agreement;

(b) Company shall be responsible for any and all obligations of such Sublicensee as if such Sublicensee were "Company" hereunder; and

(c) Any such Sublicensee shall agree in writing to be bound by the substantially similar obligations of Company hereunder that are relevant to the rights sublicensed by Company to Sublicensee under such sublicense agreement, including with respect to Article 9 (Confidentiality), and Sections 2.7 (Limited Exploitation Rights), 8.1 (Indemnity), 10.2.2 (Termination for IP Challenge), and 10.5 (Effects of Termination).

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Company shall provide Amgen, within [*] days following execution of each sublicense, prompt written notice thereof (which notice shall include the name of the Sublicensee and the general scope of such sublicense). Thereafter, upon Amgen's reasonable request, Company shall provide to Amgen a copy of any such sublicense agreement executed by Company; *provided* that the financial terms (and any other terms Company is required to keep confidential) of any such sublicense agreement may be redacted to the extent not pertinent to an understanding of a Party's rights or obligations under this Agreement.

Section 2.3 Right of First Negotiation.

2.3.1 If Company seeks to grant a sublicense (an **"Out-License"**) to a Third Party for development and/or commercialization of AMG 842 (or, to the extent Company has de-prioritized AMG 842, the backup Product thereto for which Company is actively seeking to fulfill its diligence obligation hereunder pursuant to Section 5.2 (Diligence)), then Company shall notify Amgen in advance in writing and provide a non-confidential summary of the Product that is the subject of the proposed sublicense, as well as the intended scope (which the Parties agree shall be initially for worldwide rights) of the Out-License (a **"Transaction Notice"**). If Amgen desires to evaluate such Out-License, then Amgen shall notify Company within [*] days of its receipt of the Transaction Notice (a **"Negotiation Notice"**). Promptly after Company's receipt of a Negotiation Notice, Company shall provide Amgen with a confidential summary of the Product Company is seeking to Out-License (a **"Summary"**), including existing material clinical and preclinical data, as well as such other information in Company's possession that Amgen may reasonably request, which Summary shall be deemed to be Confidential Information of Company under this Agreement. For [*] following Amgen's receipt of a Summary (the **"Exclusivity Period"**), Amgen shall have an exclusive right to negotiate an exclusive, royalty-bearing license to such Product from Company. If Amgen (i) does not deliver a Negotiation Notice to Company within the applicable [*] period after receipt of the Negotiation Notice, (ii) does not deliver to Company a written proposal for the terms of an Out-License to Amgen during the Exclusivity Period, or (iii) declines in writing the Out-License after review of the Summary, then Amgen shall be deemed to have waived its rights under this Section 2.3 (Right of First Negotiation) with respect to such Product. If Amgen and Company do not mutually agree on the terms of an Out-License for such Product to Amgen within the Exclusivity Period, Company shall be free to negotiate an Out-License for such Product with any Third Party, subject to the terms of Section 2.2 (Sublicenses) and Section 2.3.2. For clarity, an Out-License shall not include the grant of a sublicense to a contract manufacturer or a contract research organization for the purpose of manufacturing or developing Products for Company or to a Third Party distributor selling finished Product purchased from Company, and this Section 2.3 (Right of First Negotiation) shall not restrict Company in any manner with respect to such a sublicense.

2.3.2 If Company's board of directors approves the initiation of a process for (i) a Sale Transaction or (ii) a response to an unsolicited offer for an Out-License, in each case related to Company's rights in AMG 842 (or, to the extent Company has de-prioritized AMG 842, the backup Product thereto for which Company is actively seeking to fulfill its diligence obligation hereunder pursuant to Section 5.2 (Diligence)), then Company shall notify Amgen concurrently with any other notifications required hereunder (*provided* that a signed letter sent via electronic or facsimile transmission shall qualify as such written notice) and provide the intended scope (*i.e.*, field, territory and other relevant terms) of the Out-License and/or Sale Transaction.

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2.3.3 Upon the completion of an Initial Public Offering (as defined in the investor rights agreement to be entered into by the Parties) or a sale of all or substantially all of Company's assets or business, Amgen's rights under this Section 2.3 (Right of First Negotiation) shall terminate.

Section 2.4 Transfer of Licensed Know-How and Licensed Materials. Amgen shall transfer to Company (or, in the case of Amgen's transfer of the Amgen Cell Line, to the Permitted CMO) the Licensed Know-How listed on the Licensed Know-How Schedule and the Licensed Materials listed on the Licensed Materials Schedule, in accordance with a schedule to be mutually agreed by the Parties (*provided* such transfer must be completed within [*] after the Closing Date), and provide limited consulting support, in accordance with this Section 2.4 (Transfer of Licensed Know-How and Licensed Materials). Following the Signing Date, the Parties will in good faith reasonably cooperate to review and, if necessary, update the Licensed Know-How and Licensed Materials Schedules to correct and/or supplement such Schedules (and, as necessary, timely deliver the relevant Licensed Know-How and Materials to the Company.

2.4.1 Amgen shall provide, at its expense, consulting support (not to exceed [*] in the aggregate) in connection with such transfer and the Exploitation of Products in the Territory during the [*] period after the Closing Date. If Company requires additional consulting support in excess of [*] in the aggregate or beyond such period after the Closing Date in connection with such transfer or the Exploitation of Products in the Territory, then Company may request such additional support in writing. Amgen shall notify Company within [*] after receipt of such request whether it, in its sole discretion, is willing to provide such additional consulting support, which support shall be at Company's expense, at the FTE Rate for the relevant Amgen employees.

2.4.2 With respect to Amgen's transfer of the Amgen Cell Line, the Parties agree that the following procedures shall apply:

(a) Prior to such transfer, Company shall designate, and enter into a binding agreement with, one of the Permitted CMOs, which agreement shall provide for, among other things, (i) confidentiality and non-use provisions at least as protective as those set forth hereunder under Section 9.1 (Confidential Information) and (ii) such additional provisions as are required to comply with the manufacturing and other limitations set forth in this Section 2.4.2 (such agreement, the **"Permitted CMO Agreement"**). Upon Amgen's reasonable request, Company shall provide to Amgen a copy of any such Permitted CMO Agreement (including any material amendment thereto) executed by Company; *provided* that the financial terms (and any other terms Company is required to keep confidential) of any such agreement may be redacted to the extent not pertinent to Amgen's confirmation of the restrictive provisions set forth in this Section 2.4.2. Notwithstanding anything to the contrary, Company and Company's Sublicensees are deemed Permitted CMOs, and shall not be required to enter into a Permitted CMO Agreement prior to receiving the Amgen Cell Line or conducting any manufacturing activities in connection therewith, and Amgen shall deliver such cell lines to Company and/or Company's Sublicensees within a reasonable time following Company's written request. For avoidance of doubt, if Company (itself, or through a third party, Affiliate, or Sublicensee) [*] (excluding any [*], but including any [*]) [*], such [*] shall [*], and the Permitted CMO restrictions set forth herein shall [*].

(b) Following Company's and such Permitted CMO's entry into the Permitted CMO Agreement, Amgen shall, at the direction of Company, transfer the Amgen Cell Line to the Permitted CMO to generate the Products.

(c) Company agrees that it shall not, and it shall use its commercially reasonable efforts to cause the Permitted CMO not to: (i) reverse engineer or otherwise deconstruct the Amgen Cell Line or the initial Amgen cell culture media provided therewith, or to determine or to seek to determine information (including, but not limited to, the gene or amino acid sequence) or characteristics regarding the Amgen Cell Line or such media, other than as expressly required to manufacture the Products; (ii) clone, express, or otherwise produce any products or materials (including, without limitation, any progeny or derivatives thereof) from the Amgen Cell Line, other than as expressly permitted under this Agreement; (iii) notwithstanding anything to the contrary in Section 9.4.1 (Right to Publish), publish or otherwise publicly disclose the Amgen Cell Line; or (iv) permit any non-controlled security access to the Amgen Cell Line or otherwise transfer or provide any of the Amgen Cell Line to a Third Party or any of its Affiliates, other than as expressly required to manufacture the Products.

(d) Upon a termination or expiration of the Permitted CMO Agreement (including as a result of the appointment, with prior written notice to Amgen, by Company of a replacement Permitted CMO), the Permitted CMO shall promptly return any remaining Amgen Cell Lines and related Licensed Know-How and Licensed Materials to Amgen. If, at any time, Company desires to add a new Third Party commercial manufacturer to the Permitted CMO Schedule, it shall notify Amgen in writing (a **"Permitted CMO Request"**), and Amgen shall have the right, for [*] after receipt of such Permitted CMO Request, to inspect, at a reasonable time and on a reasonable basis (at Amgen's cost), such manufacturer's facilities to confirm its ability to fully comply with the restrictive provisions set forth in this Section 2.4.2. If Amgen rejects a Permitted CMO Request pursuant to the foregoing, it will notify Company of the reason(s) for such rejection and provide reasonable detail regarding the actions Company (or the applicable Third Party commercial manufacturer) may take to remedy such reasons for rejection. If Amgen does not reject a Permitted CMO Request within the [*] notice period, the applicable Third Party shall be deemed a Permitted CMO.

(e) Notwithstanding anything to the contrary, if, outside the scope of this Agreement, Amgen allows any Third Party commercial manufacturer access to or use of the Amgen Cell Line, such Third Party shall be deemed a Permitted CMO.

2.4.3 Company acknowledges that any materials transferred by Amgen to Company (or the Permitted CMO) under this Agreement are experimental in nature and may have unknown characteristics and therefore agrees to use prudence and reasonable care in the use, handling, storage, transportation and disposition and containment of any such materials. Accordingly, no such materials shall be used in any human application, including any clinical trial.

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Section 2.5 Intentionally omitted.

Section 2.6 No Other Rights. Each Party acknowledges that the rights and licenses granted under this Article 2 (License Grant) and elsewhere in this Agreement are limited to the scope expressly granted. Accordingly, except for the rights expressly granted under this Agreement, no right, title, or interest of any nature whatsoever is granted whether by implication, estoppel, reliance, or otherwise, by either Party to the other Party. All rights that are not specifically granted herein are reserved.

Section 2.7 Limited Exploitation Rights. Without limiting the provisions of Section 2.6 (No Other Rights), Company agrees (on behalf of itself and its Affiliates), and shall cause each of its Sublicensees to agree as a condition to the grant of a Sublicense, not to Exploit any Licensed Know-How or Licensed Patents in connection with any products or services other than Products.

ARTICLE 3. FEES, ROYALTIES AND PAYMENTS

Section 3.1 Intentionally omitted.

Section 3.2 Intentionally omitted.

Section 3.3 Milestone Payments. Company shall pay to Amgen certain milestone payments (**"Milestone Payments"**) following the first occurrence of certain milestone events, as set forth in Section 1 of the Milestones and Royalties Schedule (the **"Milestone Events"**). Company shall pay to Amgen the applicable Milestone Payment within [*] after the occurrence of the applicable Milestone Event. Each Milestone Payment is payable only once; except as set forth in Section 1 of the Milestones and Royalties Schedule, no Milestone Payment shall be payable for subsequent or repeated achievements of such Milestone Event with one or more of the same or different Products. Each of the Milestone Payments shall be non-refundable and non-creditable. In the event that a Milestone Event relating to clinical development for a specific Product is achieved and payment that was due and payable with respect to the previous Milestone Event(s) for such Product has not been made by Company, then Company shall promptly pay Amgen such unpaid payment with respect to such previous Milestone Event(s) for such Product.

Section 3.4 Royalties. Company shall pay to Amgen on a calendar quarterly basis the tiered royalties set forth in Section 2 of the Milestones and Royalties Schedule on annual Net Sales of Products sold by a Selling Party during the applicable Royalty Term, subject to the applicable deductions set forth in the Milestones and Royalties Schedule. Any such payment obligations accrued during a calendar quarter shall be made within [*] after the end of each such calendar quarter. Company's obligation to pay royalties with respect to a Product in a particular country shall commence upon the First Commercial Sale of such Product in such country and shall expire on a country-by-country and Product-by-Product basis on the later of (a) the date on which the Exploitation of a Product is no longer Covered by a Valid Claim of a Licensed Patent in such country, (b) the loss of Regulatory Exclusivity for the Product in such country, and (c) the tenth (10th) anniversary of the First Commercial Sale of the Product in such country (the **"Royalty Term"**).

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Section 3.5 Intentionally omitted.

Section 3.6 Method of Payment; Royalty Reporting. Unless otherwise agreed by the Parties, all payments due from Company to Amgen under this Agreement shall be paid in U.S. Dollars by wire transfer or electronic funds transfer of immediately available funds to an account designated by Amgen. After the First Commercial Sale of the first Product and until expiration of the last Royalty Term, Company shall prepare and deliver to Amgen royalty reports of the sale of Products by the Selling Parties for each calendar quarter within [*] after the end of each such calendar quarter specifying in the aggregate and on a Product-by-Product and country-by-country basis: (a) total gross amounts for Products sold or otherwise disposed of by a Selling Party; (b) amounts deducted by category in accordance with the definition of "Net Sales" in Article 1 from gross amounts to calculate Net Sales; (c) Net Sales; and (d) royalties payable.

Section 3.7 Currency Conversion. In the case of sales outside the United States, payments received by Company shall be expressed in the U.S. Dollar equivalent calculated on a quarterly basis in the currency of the country of sale and converted to their U.S. Dollar equivalent using the average rate of exchange over the applicable calendar quarter to which the sales relate, in accordance with (a) the then-current standard methods of Company or the applicable Sublicensee, to the extent reasonable and consistently applied and (b) GAAP; *provided* that if, at such time, Company does not use a rate for converting into U.S. Dollar equivalents that is maintained in accordance with GAAP, then Company shall use a rate of exchange which corresponds to the rate of exchange for such currency reported in *The Wall Street Journal*, Internet U.S. Edition at www.wsj.com, as of the last day of the applicable reporting period (or, if unavailable on such date, the first date thereafter on which such rate is available). Company shall inform Amgen as to the specific exchange rate translation methodology used for a particular country or countries.

Section 3.8 Late Payments. In the event that any payment due hereunder that is not the subject of a good faith dispute is not made when due, the payment shall accrue interest beginning on the day following the due date thereof, calculated at the annual rate of the sum of (a) [*] plus (b) the prime interest rate quoted by *The Wall Street Journal*, Internet U.S. Edition at www.wsj.com on the date said payment is due, the interest being compounded on the last day of each calendar quarter; *provided* that in no event shall said annual interest rate exceed the maximum rate permitted by Law. Each such payment when made shall be accompanied by all interest so accrued. Said interest and the payment and acceptance thereof shall not negate or waive the right of any Party to seek any other remedy, legal or equitable, to which it may be entitled because of the delinquency of any payment including, but not limited to termination of this Agreement as set forth in Article 10 (Term and Termination).

Section 3.9 Records and Audits. Company shall keep complete and accurate records relating to the calculations of Net Sales generated in the then current calendar year and payments required under this Agreement, and during the preceding [*]. Amgen shall have the right, once annually at its own expense, to have a nationally recognized, independent, certified public accounting firm, selected by it and subject to Company's prior written acceptance (which shall not be unreasonably withheld), review any such records of Company and its Affiliates and Sublicensees (the **"Audited Party"**) in the location(s) where such records are maintained by the Audited Party upon reasonable written notice (which shall be no less than [*] prior written notice) and during regular business hours and under obligations of strict confidence, for the sole

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purpose of verifying the basis and accuracy of payments made under Section 3.4 (Royalties) within the [*] period preceding the date of the request for review. No calendar year shall be subject to audit under this Section more than once. Company shall receive a copy of each such report concurrently with receipt by Amgen. Should such inspection lead to the discovery of a discrepancy to Amgen's detriment, Company shall, within [*] after receipt of such report from the accounting firm, pay any undisputed amount of the discrepancy together with interest at the rate set forth in Section 3.8 (Late Payments). Amgen shall pay the full cost of the review unless the underpayment of amounts due to Amgen is greater than [*] of the amount due for the entire period being examined, in which case Company shall pay the cost charged by such accounting firm for such review. Should the audit lead to the discovery of a discrepancy to Company's detriment, Company may credit the amount of the discrepancy, without interest, against future payments payable to Amgen under this Agreement, and if there are no such payments payable, then Amgen shall pay to Company the amount of the discrepancy, without interest, within [*] after Amgen's receipt of the report.

Section 3.10 Taxes.

3.10.1 Sales Tax. Company is responsible for the payment of any state or local, sales or use, or similar fees or taxes arising as a result of the transfer of Licensed Materials by Amgen to Company pursuant to Section 2.4 (Transfer of Licensed Know-How and Licensed Materials), and Company shall remit such fees or taxes to Amgen, as the collection agent, upon invoice.

3.10.2 Withholding. In the event that any Law requires Company to withhold taxes with respect to any payment to be made by Company pursuant to this Agreement, Company shall notify Amgen of such withholding requirement prior to making the payment to Amgen and provide such assistance to Amgen, including the provision of such documentation as may be required by a tax authority, as may be reasonably necessary in Amgen's efforts to claim an exemption from or reduction of such taxes. Company shall, in accordance with such Law, withhold taxes from the amount due, remit such taxes to the appropriate tax authority, and furnish Amgen with proof of payment of such taxes within [*] following the payment. If taxes are paid to a tax authority, Company shall provide reasonable assistance to Amgen to obtain a refund of taxes withheld, or obtain a credit with respect to taxes paid.

ARTICLE 4. PATENT PROSECUTION, MAINTENANCE AND INFRINGEMENT

Section 4.1 Prosecution and Maintenance.

4.1.1 Company shall have the first right to file, prosecute and maintain all Patent Rights specified under Licensed Patents, in each case at Company's sole expense using outside counsel reasonably acceptable to Amgen. Company shall use Commercially Reasonable Efforts to prepare, file, prosecute, defend and maintain all such Patent Rights; *provided* that Company does not represent or warrant that any patent will issue or be granted based on patent applications contained in the Licensed Patents. Amgen shall reasonably cooperate with Company's requests for data, affidavits, and other information and assistance to support prosecution and maintenance of such Patent Rights; *provided* that Company shall reimburse Amgen for its reasonable documented out-of-pocket expenses with respect to such cooperation. Company shall, at least [*] prior to submission or within [*] of receipt, forward to Amgen copies of any significant office actions, communications, and correspondence relating to the Licensed Patents. Amgen shall have the right to comment on and to discuss such prosecution and maintenance activities with Company, and Company shall consider the same in good faith.

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Section 4.2 Amgen Step-In Right. Notwithstanding the foregoing, if Company declines to file, prosecute or maintain any Patent Rights described in Section 4.1.1, elects to allow any Patent Rights described in Section 4.1.1 to lapse in any country, or elects to abandon any such Patent Rights (in each case solely to the extent contained in the Licensed Patents) before all appeals within the respective patent office have been exhausted (each, an **"Abandoned Patent Right"**), then:

(a) Company shall provide Amgen with reasonable notice of such decision so as to permit Amgen to decide whether to file, prosecute or maintain such Abandoned Patent Rights and to take any necessary action (which notice shall, in any event, be given no later than [*] prior to the next deadline for any action that may be taken with respect to such Abandoned Patent Right with the U.S. Patent & Trademark Office or any foreign patent office).

(b) Amgen, at Amgen's expense, may assume control of the filing, prosecution and/or maintenance of such Abandoned Patent Rights. The continued filing, prosecution or maintenance of such Abandoned Patent Rights shall be at Amgen's sole discretion.

(c) Amgen shall have the right to transfer the responsibility for such filing, prosecution and maintenance of such Abandoned Patent Rights to patent counsel (outside or internal) selected by Amgen.

(d) Company shall, at Amgen's reasonable request and expense, assist and cooperate in the filing, prosecution and maintenance of such Abandoned Patent Rights.

(e) In the event a patent issues with respect to any such Abandoned Patent Rights, Amgen shall provide reasonable notice to Company thereof and such Abandoned Patent Right shall be excluded from the license granted by Amgen to Company under Section 2.1 (Grant), unless Company (i) reimburses Amgen for its internal and external costs and expenses related to the prosecution and maintenance of such Abandoned Patent Right within [*] of issuance of any such patent and (ii) assumes, in writing, the responsibility for the continued prosecution and maintenance of such Patent Rights in accordance with the provisions of Section 4.1 (Prosecution and Maintenance).

Section 4.3 Enforcement.

4.3.1 Company Enforcement. Each Party shall notify the other promptly in writing when any Infringement by a Third Party is uncovered or reasonably suspected. Company shall have the first right to enforce any patent within the Licensed Patents against any Infringement or alleged Infringement thereof, and in each case shall at all times keep Amgen informed as to the status thereof. Company may, at its own expense, institute suit against any such infringer or alleged infringer and control, defend and settle such suit in a manner consistent with the terms and provisions hereof, and recover any damages, awards or settlements resulting therefrom, subject to Section 4.5 (Recovery). Amgen shall reasonably cooperate in any such litigation at

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Company's expense; where necessary, Amgen shall join in, or be named as a necessary party to, such litigation. Company shall not enter into any settlement of any claim described in this Section 4.3.1 (Company Enforcement) that admits to the invalidity or unenforceability of the Licensed Patents, incurs any financial liability on the part of Amgen, requires an admission of liability, wrongdoing or fault on the part of Amgen, without Amgen's prior written consent, in each case, such consent not to be unreasonably withheld.

4.3.2 Amgen Enforcement. If Company elects not to take good faith steps to enforce any patent within the Licensed Patents described in Section 4.3.1 (Company Enforcement) with respect to an Infringement (or otherwise take good faith steps to resolve such Infringement) in a particular country within [*] of receiving notice that an Infringement exists in such country (provided the foregoing shall not limit Amgen's right to pursue equitable relief at any time in any court of competent jurisdiction in order to protect its rights in the Licensed Patents), then it shall so notify Amgen in writing, and upon receiving such notice, then Amgen may, in its sole judgment and at its own expense, take steps to enforce any such patent, including instituting suit against any such infringer or alleged infringer, and control, defend and settle such suit in a manner consistent with the terms and provisions hereof, and recover any damages, awards or settlements resulting therefrom, subject to Section 4.5 (Recovery). Company shall reasonably cooperate in any such litigation at Amgen's expense; where necessary, Company shall join in, or be named as a necessary party to, such litigation. Amgen shall not enter into any settlement of any claim described in this Section 4.3.2 that admits to the invalidity or unenforceability of the Licensed Patents, incurs any financial liability on the part of Company or requires an admission of liability, wrongdoing or fault on the part of Company without Company's prior written consent, in each case, such consent not to be unreasonably withheld.

4.3.3 Progress Reports; Participation. The Party initiating or defending any enforcement action described in this Section 4.3 (Enforcement) (the **"Enforcing Party"**) shall keep the other Party reasonably informed of the progress of any such enforcement action, and such other Party shall have the individual right to participate with counsel of its own choice at its own expense. The selection of such counsel will be subject to the Enforcing Party's approval (which shall not be unreasonably withheld).

Section 4.4 Defense of Third Party Claims. If either (a) any Product Exploited by or under authority of Company becomes the subject of a Third Party's claim or assertion of Infringement of a patent relating to the manufacture, use, sale, offer for sale or importation of such Product in the Field in the Territory, or (b) a declaratory judgment action is brought naming either Party as a defendant and alleging invalidity or unenforceability of any of the Licensed Patents, the Party first having notice of the claim or assertion shall promptly notify the other Party, and the Parties shall promptly confer to consider the claim or assertion and the appropriate course of action. Unless the Parties otherwise agree in writing, each Party shall have the right to defend itself against a suit that names it as a defendant (the **"Defending Party"**). Neither Party shall enter into any settlement of any claim described in this Section 4.4 that admits to the invalidity or unenforceability of the Licensed Patents, incurs any financial liability on the part of the other Party, or requires an admission of liability, wrongdoing or fault on the part of the other Party, without such other Party's prior written consent, in each case, such consent not to be unreasonably withheld. In any event, the other Party shall reasonably assist the Defending Party and cooperate in any such litigation at the Defending Party's request and expense.

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Section 4.5 Recovery. Except as otherwise provided, the costs and expenses of the Party bringing suit under Section 4.3 (Enforcement) shall be borne by such Party, and any damages, settlements or other monetary awards recovered shall be shared as follows: (i) the amount of such recovery actually received by the Party controlling such action shall first be applied to the out-of-pocket costs of each Party in connection with such action; and then (ii) the remainder of the recovery shall be shared between the Parties as follows:

(a) If Company is the Enforcing Party, as if such recovery were Net Sales under this Agreement and Company shall pay to Amgen a portion of such Net Sales equal to the royalties calculated and payable with respect to the applicable Product under Section 3.4 (Royalties); and

(b) If Amgen is the Enforcing Party, [*] to Amgen, and [*] to Company.

Section 4.6 Patent Term Extensions and Filings for Regulatory Exclusivity Periods. Company shall advise Amgen in advance when it is considering any patent term extension or supplementary protection certificates or their equivalents for the Licensed Patents. With respect to any patent listings required for any Regulatory Exclusivity for Products in the Territory, the Parties shall mutually agree on which Licensed Patents to list.

Section 4.7 Patent Marking. Company shall mark, and shall cause all other Selling Parties to mark, Products with all Licensed Patents in accordance with applicable Law, which marking obligation shall continue for as long as (and only for as long as) required under applicable Law.

ARTICLE 5. OBLIGATIONS OF THE PARTIES

Section 5.1 Responsibility. Following the Closing Date and at all times during the Term (except as expressly stated otherwise herein), Company shall be responsible for, and shall bear all costs associated with, the research, development and commercialization of the Product(s) in the Territory, including regulatory, pharmacovigilance, manufacturing, distribution, marketing and sales activities. Subject to Company's obligations hereunder, all decisions concerning the development, marketing and sales of Product(s) in the Territory, including the clinical and regulatory strategy, design, sale, price and promotion of Product(s) covered under this Agreement, shall be within the sole discretion of Company.

Section 5.2 Diligence. Company shall (directly and/or through one or more Affiliates and/or Sublicensees or subcontractors) use Commercially Reasonable Efforts to develop and commercialize the Products in the Territory, [*]. The foregoing shall include use of Commercially Reasonable Efforts (directly and/or through one or more Affiliates and/or Sublicensees) with respect to [*]. In addition to the obligations of Company to use Commercially Reasonably Efforts, if Company, its Affiliates and/or their respective Sublicensees have not [*], Company shall promptly (but in no event later than [*] after each such applicable date) notify Amgen in writing of such failure to achieve such event (a **"Specified Diligence Failure"**) in a timely manner (the **"Diligence Notice"**); *provided* that, if Company either (A) fails to timely [*] despite its good faith efforts to do so or (B) has a Specified Diligence Failure

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as a result of [*] as required under [*], then the deadline described above shall be equitably extended to account for [*] to comply therewith (provided, in the case of a failure under clause (A), such equitable extension shall [*]). Company will notify Amgen if such an equitable extension is necessary, and will provide Amgen with a good faith, non-binding estimate of the expected duration of such extension. Notwithstanding anything to the contrary, Amgen shall have the right to terminate this Agreement for a Specified Diligence Failure by providing [*] written notice to Company, *provided* such Specific Diligence Failure is not cured during such notice period. Company shall notify Amgen immediately upon obtaining Marketing Approval of each Product in each country.

Section 5.3 Reports. On January 15 and July 15 of each year, Company shall submit to Amgen a report summarizing in reasonable detail, on a Product-by-Product basis, activities related to the Exploitation of Products that Company or any of its Affiliates has performed, or caused to be performed, during the preceding six (6)-month period, and future activities related to the Exploitation of Products it then-currently expects to initiate during the following six (6)-month period.

Section 5.4 Intentionally omitted.

Section 5.5 Pre-Existing Agreements. Promptly after the Closing Date, Amgen shall assign the Pre-Existing Agreements to Company, to the extent it has the right under such agreement(s) to do so (and will use commercially reasonable efforts to obtain any required consents). Until the effective date of such assignment or sublicense, as applicable, (a) Company agrees to perform, or assist Amgen in performing, Amgen's obligations under such agreement, and (b) Amgen agrees to use reasonable efforts to provide Company with any rights Amgen receives under such agreement and sublicense, as applicable.

Section 5.6 Company Location. Within sixty (60) days following the Closing Date, Company, Pinta Biosciences, Inc. or Santa Maria Biosciences, Inc. (either alone or together) shall establish facilities in or around Thousand Oaks, California (the **"Thousand Oaks Facilities"**). At least one of Company, Pinta Biosciences, Inc., or Santa Maria Biosciences, Inc. shall be obligated to maintain such Thousand Oaks Facilities until the earliest of (a) two (2) years following the date of such establishment, (b) the end of the Term or (c) a Sale Transaction of Company. Promptly after the Closing Date, Amgen and Company shall work together to mutually identify appropriate personnel candidates to develop and commercialize the Products in the Territory. Company shall use commercially reasonable efforts to hire and retain such candidates.

ARTICLE 6. INTENTIONALLY OMITTED.

ARTICLE 7. REPRESENTATIONS AND COVENANTS

Section 7.1 Mutual Warranties. Each of Amgen and Company represents and warrants that:

(a) it is duly organized and validly existing under the Law of the jurisdiction of its incorporation, and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof;

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(b) it is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder, and the individual executing this Agreement on its behalf has been duly authorized to do so by all requisite corporate action; and

(c) this Agreement is legally binding upon it and enforceable in accordance with its terms. The execution, delivery and performance of this Agreement by it 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 applicable Law.

Section 7.2 Additional Amgen Warranties. Amgen warrants to Company that:

(a) As of the Signing Date, Amgen Controls the Licensed Patents and the Licensed Know-How listed on the Licensed Know-How Schedule, and is entitled to grant the licenses specified herein. Amgen has not caused any Patent Right included in the Licensed Patents to be subject to any liens or encumbrances and Amgen has not granted to any Third Party any rights or licenses under such Patent Rights or Licensed Know-How that would conflict with the licenses granted to Company hereunder. None of the Licensed Patents are in-licensed by Amgen;

(b) As of the Signing Date, Amgen has no knowledge of any claim or litigation that has been brought or threatened in writing by any Third Party alleging that (i) the Licensed Patents are invalid or unenforceable or (ii) the manufacture, sale, offer for sale or importation of the Products in the Field in the Territory infringes or misappropriates any patents or other intellectual property rights of any Third Party;

(c) As of the Signing Date, no patent application or registration within the Licensed Patents is the subject of any pending interference, opposition, cancellation or patent protest pursuant to 37 C.F.R. § 1.291;

(d) Amgen has made available to Company true and correct copies of the following: (i) all material Regulatory Filings for the Territory; (ii) all material correspondence with Governmental Authorities with respect to such Regulatory Filings; (iii) all minutes of any material meetings, telephone conferences or discussions with Governmental Authorities with respect to such Regulatory Filings; and (iv) all final clinical trial reports, in each case with respect to the Products and to the extent in existence as of the Signing Date;

(e) Amgen is the owner of each such Regulatory Filing in the Field in the Territory;

(f) Intentionally omitted;

(g) As of the Signing Date, the copy each Pre-Existing Agreement disclosed to Company prior to the Signing Date is, but for the redactions contained therein, a true and complete copy. Amgen further represents and warrants that Company will not be bound by any provision that is redacted from such copies of any Pre-Existing Agreement; and

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(h) As of the Signing Date, Amgen has no knowledge that the manufacture of Products using the Amgen Cell Line provided under this Agreement would infringe any patents of any Third Party in a manner that would reasonably be expected to have a material adverse effect on Company's ability to Commercialize the Products on or after January 1, 2019.

Section 7.3 Disclaimer. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS ARTICLE 7 (REPRESENTATIONS), NEITHER PARTY MAKES ANY REPRESENTATIONS OR EXTENDS ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, QUALITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR VALIDITY OF PATENT CLAIMS. NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS A REPRESENTATION MADE OR WARRANTY GIVEN BY EITHER PARTY THAT EITHER PARTY WILL BE SUCCESSFUL IN OBTAINING ANY PATENT RIGHTS, OR THAT ANY PATENTS WILL ISSUE BASED ON A PENDING APPLICATION. WITHOUT LIMITING THE RESPECTIVE RIGHTS AND OBLIGATIONS OF THE PARTIES EXPRESSLY SET FORTH HEREIN, EACH PARTY SPECIFICALLY DISCLAIMS ANY GUARANTEE THAT THE PRODUCTS WILL BE SUCCESSFUL, IN WHOLE OR IN PART.

Section 7.4 Company Covenants. Company covenants to Amgen that:

(a) it will conduct, and will cause its Affiliates and contractors to conduct, all preclinical and clinical studies for Products and manufacturing of Products, in accordance with (i) all U.S. Laws and the Laws of the country in which such clinical studies are conducted, (ii) the known or published standards of the FDA and the Regulatory Authority in such country, and (iii) the scientific standards applicable to the conduct of such studies and activities in the United States and in such country including current good laboratory practice, current good clinical practice and current good manufacturing practice. Neither Company, nor any officer, employee or agent of Company, will make an untrue statement of a material fact to any Regulatory Authority with respect to Products (whether in any submission to such Regulatory Authority or otherwise), and none of the foregoing will knowingly fail to disclose a material fact required to be disclosed to any Regulatory Authority with respect to Products;

(b) it will, and will cause its Affiliates and contractors to, comply with all Law with respect to the commercialization of Products;

(c) it will not knowingly employ any personnel or knowingly use a contractor or consultant that has been debarred by the FDA (or subject to a similar sanction of any other Regulatory Authority), or that is subject of an FDA debarment investigation or proceeding (or similar proceeding of any other Regulatory Authority); and

(d) it shall comply with all (i) U.S. Laws prohibiting the re-export, directly or indirectly, of certain controlled U.S.-origin items without a license to parties located in certain countries or appearing on certain U.S. Government lists of restricted parties; (ii) U.S. Laws prohibiting participation in non-U.S. boycotts that the United States does not support; and (iii) U.S. Laws prohibiting the sale of products to parties from any country subject to U.S. economic sanctions or who are identified on related U.S. Government lists of restricted parties.

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ARTICLE 8. INDEMNIFICATION

Section 8.1 Indemnity.

8.1.1 By Amgen. Amgen agrees to defend Company and its (and its Affiliates') directors, officers, employees and agents (the **"Company Indemnified Parties"**) at Amgen's cost and expense, and will indemnify and hold Company and the other Company Indemnified Parties harmless from and against any claims, losses, costs, damages, fees or expenses (including legal fees and expenses) (collectively, **"Losses"**) to the extent resulting from any Third Party claim (including product liability claims) arising out of or otherwise relating to (a) the gross negligence or willful misconduct of Amgen, or (b) the material breach of this Agreement or the representations and warranties made hereunder by Amgen; except, in each case, to the extent such Losses result from clause (a), (b), or (c) of Section 8.1.2 (By Company). In the event of any such claim against the Company Indemnified Parties by a Third Party, the foregoing indemnity obligations shall be conditioned upon (x) Company promptly notifying Amgen in writing of the claim, (y) Company granting Amgen sole management and control, at Amgen's sole expense, of the defense of the claim and/or its settlement (*provided* that Amgen shall not settle any such claim without the prior written consent of Company if such settlement does not include a complete release from liability or if such settlement would involve undertaking an obligation (including the payment of money by a Company Indemnified Party), would bind or impair a Company Indemnified Party, or includes any admission of wrongdoing or that any intellectual property or proprietary right of Company is invalid or unenforceable), and (z) at Amgen's expense, the Company Indemnified Parties cooperating with Amgen; *provided* that in the case of (x) and (z) any failure or delay in such notice or cooperation shall not excuse any obligations of Amgen except to the extent Amgen is actually prejudiced thereby. The Company Indemnified Parties may, at their option and expense, be represented in any such action or proceeding by counsel of their own choosing.

8.1.2 By Company. Company agrees to defend Amgen and its (and its Affiliates') directors, officers, employees and agents (the **"Amgen Indemnified Parties"**) at Company's cost and expense, and will indemnify and hold Amgen and the other Amgen Indemnified Parties harmless from and against any Losses resulting from any Third Party claim (including product liability claims) to the extent arising out of or otherwise relating to (a) the gross negligence or willful misconduct of Company, its Affiliates, or their respective Sublicensees, (b) the material breach of this Agreement or the representations, warranties and covenants made hereunder by Company, or (c) the Exploitation of any Product by or on behalf of Company, its Affiliates, or their respective Sublicensees (including from product liability and intellectual property infringement claims); except, in each case, to the extent such Losses result from clause (a) or (b) of Section 8.1.1 (By Amgen). In the event of any such claim against the Amgen Indemnified Parties by a Third Party, the foregoing indemnity obligations shall be conditioned upon (x) Amgen promptly notifying Company in writing of the claim, (y) Amgen granting Company sole management and control, at Company's sole expense, of the defense of the claim and/or its settlement (*provided* that Company shall not settle any such claim without the prior written consent of Amgen if such settlement does not include a complete release from liability or if such settlement would involve undertaking an obligation (including the payment of money by an Amgen Indemnified Party), would bind or impair an Amgen Indemnified Party, or includes any

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admission of wrongdoing or that any intellectual property or proprietary right of Amgen is invalid or unenforceable) and (z) at Company's expense, the Amgen Indemnified Parties cooperating with Company; *provided* that in the case of (x) and (z) any failure or delay in such notice or cooperation shall not excuse any obligations of Company except to the extent Company is actually prejudiced thereby. The Amgen Indemnified Parties may, at their option and expense, be represented in any such action or proceeding by counsel of their own choosing.

Section 8.2 LIMITATION OF DAMAGES. IN NO EVENT SHALL EITHER PARTY BE LIABLE HEREUNDER TO THE OTHER PARTY FOR ANY PUNITIVE, RELIANCE, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOST REVENUE, LOST PROFITS, OR LOST SAVINGS) HOWEVER CAUSED AND UNDER ANY THEORY, EVEN IF IT HAS NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. THE LIMITATIONS SET FORTH IN THIS SECTION 8.2 (LIMITATION OF DAMAGES) SHALL NOT APPLY WITH RESPECT TO (A) ANY BREACH OF ARTICLE 9 (CONFIDENTIALITY) OR (B) THE INTENTIONAL MISCONDUCT OF A PARTY. NOTHING IN THIS SECTION 8.2 (LIMITATION OF DAMAGES) IS INTENDED TO LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF A PARTY UNDER THIS ARTICLE 8 (INDEMNIFICATION) WITH RESPECT TO ANY DAMAGES PAID BY THE OTHER PARTY TO A THIRD PARTY IN CONNECTION WITH A THIRD-PARTY CLAIM.

Section 8.3 Insurance. At least [*] prior to [*], Company shall at its own expense procure and maintain during the Term (and for [*] thereafter) [*] insurance coverage adequate to cover its obligations hereunder and which is/are consistent with normal business practices of prudent pharmaceutical companies. Additionally, at least [*] prior to [*], Company shall at its own expense procure and maintain during the Term (and for [*] thereafter) [*] insurance coverage adequate to cover its obligations hereunder and which is consistent with normal business practices of prudent pharmaceutical companies. Each insurance policy required by and procured by Company under this Section 8.3 (Insurance) shall [*]. Such insurance shall not be construed to create a limit of Company's liability with respect to its indemnification obligations under this Article 8 (Indemnification). Company shall provide Amgen with a certificate of insurance or other evidence of such insurance, upon request. Company shall provide Amgen with written notice at least [*] prior to the cancellation, non-renewal or a material change of or in such insurance which materially adversely affects the rights of Amgen hereunder, and [*] prior written notice of cancellation for non-payment of premiums. Company's insurance hereunder shall be primary with respect to the obligations for which Company is liable hereunder.

ARTICLE 9. CONFIDENTIALITY

Section 9.1 Confidential Information.

9.1.1 Confidential Information. Each Party (**"Disclosing Party"**) may disclose to the other Party (**"Receiving Party"**), and Receiving Party may acquire during the course and conduct of activities under this Agreement, certain proprietary or confidential information of Disclosing Party in connection with this Agreement. The term **"Confidential Information"** means (a) all Licensed Know-How, (b) all Licensed Materials, and (c) all ideas and information

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of any kind, whether in written, oral, graphical, machine-readable or other form, whether or not marked as confidential or proprietary, which are transferred, disclosed or made available by Disclosing Party or at the request of Receiving Party. During the Term, Amgen shall keep completely confidential all Licensed Know-How and Licensed Materials to the extent disclosure of such Confidential Information would negatively impact in any material way the Exploitation of the Products in the Territory by Company or its Affiliates or Sublicensees. For clarity, any modifications, improvements, enhancements, derivatives, or extracts of or related to the Licensed Know-How and Licensed Materials conceived or reduced to practice by or on behalf of Company, its Affiliates, or Sublicensees shall be considered Company's Confidential Information.

9.1.2 Restrictions. During the Term and for [*] thereafter, Receiving Party shall keep completely confidential all Disclosing Party's Confidential Information. Receiving Party shall not use Disclosing Party's Confidential Information except to the extent necessary to perform its obligations and exercise its rights under this Agreement. Receiving Party has the right to disclose Disclosing Party's Confidential Information without Disclosing Party's prior written consent, to the extent and only to the extent reasonably necessary, to Receiving Party's Affiliates and their employees, subcontractors, consultants or agents who have a need to know such Confidential Information in order to perform its obligations and exercise its rights under this Agreement and who are required to comply with the restrictions on use and disclosure in this Section 9.1.2 (Restrictions). Receiving Party shall use diligent efforts to cause those entities and persons to comply with the restrictions on use and disclosure in this Section 9.1.2 (Restrictions). Receiving Party assumes responsibility for those entities and persons maintaining Disclosing Party's Confidential Information in confidence and using same only for the purposes described herein.

9.1.3 Exceptions. Receiving Party's obligation of nondisclosure and the limitations upon the right to use the Disclosing Party's Confidential Information shall not apply to the extent that Receiving Party can demonstrate that the Disclosing Party's Confidential Information: (a) was known to Receiving Party or any of its Affiliates prior to the time of disclosure, as evidenced by contemporaneous written records; (b) is or becomes public knowledge through no fault or omission of Receiving Party or any of its Affiliates; (c) is obtained by Receiving Party or any of its Affiliates from a Third Party under no obligation of confidentiality to Disclosing Party; or (d) has been independently developed by employees, subcontractors, consultants or agents of Receiving Party or any of its Affiliates without the aid, application or use of Disclosing Party's Confidential Information, as evidenced by contemporaneous written records.

9.1.4 Permitted Disclosures. Receiving Party may disclose Disclosing Party's Confidential Information to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

(a) in order to comply with applicable law (including any securities law or regulation or the rules of a securities exchange) or with a legal or administrative proceeding;

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(b) in connection with prosecuting or defending litigation, Marketing Approvals and other regulatory filings and communications, and filing, prosecuting and enforcing Patents in connection with Receiving Party's rights and obligations pursuant to this Agreement; and

(c) in connection with exercising its rights hereunder, to its Affiliates; potential and future collaborators (including Sublicensees where Company is the Receiving Party); and permitted and potential acquirers or assignees; potential investment bankers, investors and lenders;

provided that (1) with respect to the foregoing clause (a) or (b), where reasonably possible, Receiving Party shall notify Disclosing Party of Receiving Party's intent to make any disclosure pursuant thereto sufficiently prior to making such disclosure so as to allow Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) with respect to the foregoing clause (c), each of those named people and entities are required to comply with the restrictions on use and disclosure in Section 9.1.2 (Restrictions) (other than investment bankers, investors and lenders, which must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

Section 9.2 Terms of this Agreement; Publicity.

9.2.1 Restrictions. The Parties agree that the terms of this Agreement shall be treated as Confidential Information of both Parties, and thus may be disclosed only as permitted by Section 9.1.4 (Permitted Disclosures). Except as required by law and except for the press release attached hereto as the Press Release Schedule to be issued on or after the Closing Date, each Party agrees not to issue any press release or public statement disclosing information relating to this Agreement or the Products in the Territory or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party not to be unreasonably withheld (or as such consent may be obtained in accordance with Section 9.2.2 (Review)).

9.2.2 Review. In the event either Party (the **"Issuing Party"**) desires to issue a press release or other public statement disclosing information relating to this Agreement or the transactions contemplated hereby or the terms hereof, the Issuing Party shall provide the other Party (the **"Reviewing Party"**) with a copy of the proposed press release or public statement (the **"Release"**). The Issuing Party shall specify with each such Release, taking into account the urgency of the matter being disclosed, a reasonable period of time within which the Receiving Party may provide any comments on such Release (but in no event less than [*] business days) and if the Receiving Party fails to provide any comments during the response period called for by the Issuing Party, the Reviewing Party shall be deemed to have consented to the issuance of such Release. If the Receiving Party provides any comments, the Parties shall consult on such Release and work in good faith to prepare a mutually acceptable Release. Either Party may subsequently publicly disclose any information previously contained in any Release so consented to. For the avoidance of doubt, notwithstanding anything to the contrary, Company, in its sole discretion, may (a) subject to the terms of Section 9.1 (Confidential Information), disclose information relating to Company's, its Affiliates', and Sublicensees' activities in connection with the subject matter hereunder, including information relating to research and any clinical trial conducted by Company (including in marketing or publicity materials) and any health or safety

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matter related to a Product and (b) disclose information relating to this Agreement or the transactions contemplated hereby to current and potential investors in and potential acquirers and Sublicensees of Company who are bound prior to disclosure by commercially reasonable obligations of confidentiality.

Section 9.3 Relationship to the Confidentiality Agreement. All "Confidential Information" disclosed or received by or on behalf of a Party under that certain Confidential Disclosure Agreement between Amgen and Kleiner Perkins Caufield & Byers, dated October 17, 2011, shall be deemed "Confidential Information" hereunder and shall be subject to the terms and conditions of this Agreement.

Section 9.4 Publications.

9.4.1 Right to Publish. Subject to the provisions of Sections 9.1 (Confidential Information), 9.2 (Terms of this Agreement; Publicity) and 9.4.2 (Review), both Parties shall have the right to publish with respect to Products in publications based in the Territory, and to make scientific presentations on Products in the Territory (*provided* that prior to any such publication or presentation by Amgen with respect to a Product in the Territory, Amgen shall obtain Company's prior written consent). Neither Party shall publish the [*] or information concerning the [*] without the prior consent of the other Party.

9.4.2 Review. Except as required by Law or court order, for any proposed publication or presentation regarding a Product in the Territory, the Party desiring to make such publication: (a) shall transmit a copy of the proposed publication for review and comment to the other Party (and any applicable licensee) at least [*] prior to the submission of such publication to a Third Party;; (b) upon request of the other Party (or applicable licensee) shall remove all Confidential Information of the other Party (or applicable licensee); and (c) shall consider all reasonable comments made by the other Party (or applicable licensee).

ARTICLE 10. TERM AND TERMINATION

Section 10.1 Term. The term of this Agreement (the **"Term"**) shall commence on the Signing Date, and unless terminated earlier as provided in this Article 10 (Term and Termination), shall continue in full force and effect until expiration of the last-to-expire Royalty Term for any Product in the Territory. Upon expiration of this Agreement, the licenses granted to Company by Amgen under this Agreement to Exploit Products shall be fully paid-up, royalty-free, irrevocable and non-exclusive.

Section 10.2 Termination by Amgen.

10.2.1 Breach.

(a) Subject to Section 10.2.1(b), Amgen shall have the right to terminate this Agreement in full upon delivery of written notice to Company in the event of any material breach by Company of any terms and conditions of this Agreement; *provided* that such termination shall not be effective if such breach has been cured within [*] after written notice thereof is given by Amgen to Company specifying the nature of the alleged breach.

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(b) Notwithstanding the foregoing, in the event of a good faith dispute between the Parties as to whether Company has materially breached any terms or conditions of this Agreement (a **"Dispute"**), then, except [*], (i) the Parties shall resolve the Dispute pursuant to Section 11.4 (Governing Law; Jurisdiction) (the period until the resolution of such Dispute being the **"Dispute Period"**); (ii) each Party will continue to perform its obligations under this Agreement during the Dispute Period and (iii) if the relevant judicial finder of fact (**"Finder of Fact"**) determines that Company is in material breach as asserted by Amgen (a **"Breach"**), then, following such adjudication by the Finder of Fact and in lieu of any such termination by Amgen, Company shall have the right to cure (A) any payment breach by payment in full of any finally determined monetary award and (B) any other breach that [*]. For avoidance of doubt, this Section 10.2.1 shall not abrogate Amgen's right to obtain injunctive or equitable relief at any time from a court of competent jurisdiction and/or attorneys' fees in connection with any relief so granted.

10.2.2 Termination for IP Challenge. To the extent allowed by Law, Amgen shall have the right, upon written notice to Company, to terminate in full (a) this Agreement, in the event that Company or any of its Affiliates directly challenges in a legal or administrative proceeding the patentability, enforceability or validity of any Licensed Patents or Framework Patents, or (b) any Sublicensee's sublicense, in the event that such Sublicensee directly challenges in a legal or administrative proceeding the patentability, enforceability or validity of any Licensed Patents; *provided* that Amgen shall not have the right to terminate any sublicense under Section 10.2.2 (b) (Termination for IP Challenge) for any such challenge by any Sublicensee if such challenge is dismissed within [*] of Amgen's notice to Company under this Section 10.2.2 (Termination for IP Challenge) and not thereafter continued.

Section 10.3 Termination by Company.

10.3.1 Breach. Company shall have the right to terminate this Agreement in full upon delivery of written notice to Amgen in the event of any material breach by Amgen of any terms and conditions of this Agreement; *provided* that such termination shall not be effective if such breach has been cured within [*] after written notice thereof is given by Company to Amgen specifying the nature of the alleged breach.

10.3.2 Discretionary Termination. Company shall have the right to terminate this Agreement in full, or on a Product-by-Product basis, [*] after delivery of written notice to Amgen if the Board of Directors of Company concludes due to scientific, technical, regulatory or commercial reasons, including (a) safety or efficacy concerns, including adverse events of a Product, (b) concerns relating to the present or future marketability or profitability of a Product, (c) reasons related to patent coverage or (d) existing and anticipated competition, renders the Exploitation of a Product no longer commercially practicable for Company.

Section 10.4 Termination Upon Bankruptcy. Either Party may terminate this Agreement if, at any time, the other Party shall (a) file in any court or agency pursuant to any statute or regulation of any state, country or jurisdiction, a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver or trustee of that Party or of its assets, (b) propose a written agreement of composition or extension of its debts, (c) be served with an

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involuntary petition against it, filed in any insolvency proceeding, and such petition has not been dismissed within [*] after the filing thereof, (d) propose or be a party to any dissolution or liquidation, (e) make an assignment for the benefit of its creditors or (f) admit in writing its inability generally to meet its obligations as they fall due in the general course.

Section 10.5 Effects of Termination. Upon termination by either Party under Sections 10.2 (Termination by Amgen), 10.3 (Termination by Company) or 10.4 (Termination Upon Bankruptcy):

(a) Company shall responsibly wind-down, in accordance with accepted pharmaceutical industry norms and ethical practices, any on-going clinical studies for the Terminated Products for which it has responsibility hereunder in which patient dosing has commenced or, if reasonably practicable and requested by Amgen, Company, its Affiliates or its Sublicensees shall complete such trials. Company shall be responsible for any costs associated with such wind-down. Amgen shall pay all costs incurred by either Party to complete such studies should Amgen request that such studies be completed.

(b) A termination of this Agreement shall [*] with respect to the Terminated Products pursuant to Section [*]; *provided* that, with respect to [*], as of the effective date of termination and [*] consistent with the terms and conditions contained herein, with [*], or [*], Company may, to the extent it is legally permitted to do so, [*] and [*] and [*] and [*].

(c) All rights and licenses granted by Amgen to Company in Article 2 (License Grant) with respect to the Terminated Products shall terminate, and Company and its Affiliates shall cease all use of Licensed Know-How and Licensed Patents related to the Terminated Products and all Exploitation of the Terminated Products, except to the extent required under Section 10.5(a).

(d) Upon Amgen's request, all Marketing Approvals and other regulatory filings and communications relating to the Terminated Products owned (in whole or in part) or otherwise controlled by Company and its Affiliates and Sublicensees, and all other documents relating to or necessary to further Exploit any Terminated Products, as such items exist as of the effective date of such termination (including all related completed and ongoing clinical studies) shall be assigned to Amgen, and Company shall provide to Amgen one (1) copy of the foregoing and all documents contained in or referenced in any such items, together with the raw and summarized data for any clinical studies (and where reasonably available, electronic copies thereof). In the event of any failure to obtain assignment, Company hereby consents and grants to Amgen the right to access and reference (without any further action required on the part of Company, whose authorization to file this consent with any Regulatory Authority is hereby granted) any such item.

(e) Company hereby grants to Amgen and its Affiliates, and Amgen and its Affiliates shall automatically have, a [*] license, [*], under Know-How and Patent Rights that are Controlled by Company or any of its Affiliates and Sublicensees for Exploiting the Terminated Products and any improvement to any of the foregoing (such license effective only as of and after the effective date of such termination). The Patent Rights so licensed shall be subject to [*].

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(f) Upon Amgen's request, Company shall assign (or, if applicable, shall cause its Affiliates or Sublicensees to assign) to Amgen all of Company's (and such Affiliates' and Sublicensees') right, title and interest in and to any registered or unregistered trademarks or internet domain names worldwide that are specific to a Terminated Product (it being understood that the foregoing shall not include any trademarks or internet domain names that contain the corporate or business name(s) of Company).

(g) Company agrees (and shall cause its Affiliates and Sublicensees as a condition of the grant of the applicable Sublicense to so agree) to fully cooperate with Amgen and its designee(s) to facilitate a smooth, orderly and prompt transition of the Exploitation of Terminated Products in the Territory to Amgen and/or its designee(s). Upon request by Amgen, and at Amgen's expense, Company shall transfer to Amgen some or all quantities of Terminated Products in its possession. If Company is, at the time of such termination of this Agreement, party to any Third Party contracts with respect to a Terminated Product, then it shall provide Amgen notice and (to the extent permitted to do so) copies thereof Company shall assign to Amgen (and Amgen shall assume and perform) any such contracts requested by Amgen, to the extent it has the right under such contract(s) to do so (and shall use commercially reasonable efforts to obtain any required consents). In addition, Company shall, at Amgen's cost and expense, provide any cooperation reasonably requested by Amgen to ensure uninterrupted supply of Terminated Products. If Company manufactured any Terminated Product at the time of termination, then Company shall continue to provide for manufacturing of such Product for Amgen, at [*] of the fully-burdened manufacturing cost therefor (for clarity, such cost shall be paid by Amgen to Company), from the date of notice of such termination until the sooner to occur of (a) such time as Amgen is able, using commercially reasonable efforts to do so, to secure an acceptable alternative commercial manufacturing source from which sufficient quantities of Product may be procured and legally sold in the Territory and (b) [*] from the effective date of termination of this Agreement.

(h) For clarity, the terms and conditions of this Agreement shall continue in full force and effect with respect to any Product other than the Terminated Products, and the terms and conditions of the provisions listed as surviving pursuant to Section 10.6 (Survival) shall continue in full force and effect with respect to the Terminated Products.

Company shall duly execute and deliver, or caused to be duly executed and delivered, such instruments and shall do and cause to be done such activities and things, including the filings of such assignments, agreements, documents and instruments, as may be necessary under, or as Amgen may reasonably request in connection with, Amgen's rights under this Section 10.5 (Effects of Termination).

Section 10.6 Survival. In addition to the termination consequences set forth in Section 10.5 (Effects of Termination), the following provisions shall survive termination or expiration of this Agreement: Articles 1 (Definitions), 7 (Indemnification), 8 (Confidentiality), and 10 (Miscellaneous) and Sections 2.7 (Limited Exploitation Rights), 3.3 (Milestone Payments) (with respect to milestones reached prior to such expiration or termination), 3.4 (Royalties) (with respect to sales made before such expiration or termination), 3.6 (Method of Payment; Royalty Reporting\) through 3.10 (Taxes) (inclusive) (with respect to periods with sales of Products made

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before such expiration or termination), 4.3 (Enforcement) through 4.5 (Recovery) (with respect to any action initiated prior to such expiration or termination), 7.3 (Disclaimer), 10.5 (Effects of Termination) and this Section 10.6 (Survival). Termination or expiration of this Agreement shall not relieve the Parties of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration nor preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement nor prejudice either Party's right to obtain performance of any obligation. All other rights and obligations shall terminate upon expiration of this Agreement.

ARTICLE 11. MISCELLANEOUS

Section 11.1 Entire Agreement Amendment. This Agreement and all Schedules attached to this Agreement constitute the entire agreement between the Parties as to the subject matter hereof. All prior and contemporaneous negotiations, representations, warranties, agreements, statements, promises and understandings with respect to the subject matter of this Agreement are superseded hereby. Neither Party shall be bound by or charged with any written or oral agreements, representations, warranties, statements, promises or understandings not specifically set forth in this Agreement. No amendment, supplement or other modification to any provision of this Agreement shall be binding unless in writing and signed by both Parties.

Section 11.2 Section 365(n) of the Bankruptcy Code. All rights and licenses granted under or pursuant to any section of this Agreement are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101(35A) of the U.S. Bankruptcy Code to the extent permitted thereunder. The Parties shall retain and may fully exercise all of their respective rights and elections under the U.S. Bankruptcy Code or any analogous provisions in any other country or jurisdiction. Upon the commencement of a bankruptcy proceeding by or against either Party, the Party that is not a party to such proceeding shall further be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property and all embodiments of such intellectual property, which, if not already in the non-subject Party's possession, shall be promptly delivered to it, unless the Party subject to the proceeding elects to continue, and continues, to perform all of its obligations under this Agreement.

Section 11.3 Independent Contractors. The relationship between Company and Amgen created by this Agreement is solely that of independent contractors. This Agreement does not create any agency, distributorship, employee-employer, 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. Each Party shall use its own discretion and shall have complete and authoritative control over its employees and the details of performing its obligations under this Agreement.

Section 11.4 Governing Law; Jurisdiction. This Agreement and its effect are subject to and shall be construed and enforced in accordance with the law of [*], without regard to its conflicts or choice of law rules or principles, except as to any issue which depends upon the validity, scope or enforceability of any Licensed Patent, which issue shall be determined in accordance

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with the laws of the country in which such patent was issued. Each of the Parties hereby irrevocably and unconditionally consents to submit to the exclusive jurisdiction of the courts of [*] for any matter arising out of or relating to this Agreement and the transactions contemplated hereby, and agrees not to commence any litigation relating thereto except in such courts. Each of the Parties hereby irrevocably and unconditionally waives any objection to the laying of venue of any matter arising out of this Agreement or the transactions contemplated hereby in the courts of [*] and hereby further irrevocably and unconditionally waives and agrees not to plead or claim in any such court that any such matter brought in any such court has been brought in an inconvenient forum. The Parties agree that a final judgment in any such matter shall be conclusive and may be enforced in other jurisdictions by suits on the judgment or in any other manner provided by law. Any proceeding brought by either Party under this Agreement shall be exclusively conducted in the English language.

Section 11.5 Notice. Except as otherwise expressly set forth herein, all notices or communication required or permitted to be given by either Party hereunder shall be deemed sufficiently given if mailed by registered mail or certified mail, return receipt requested, or sent by overnight courier, such as Federal Express, to the other Party at its respective address set forth below or to such other address as one Party shall give notice of to the other from time to time hereunder. Mailed notices shall be deemed to be received on the third (3rd) business day following the date of mailing. Notices sent by overnight courier shall be deemed received the following business day.

If to Company: Nina Biosciences, Inc.
c/o Kleiner Perkins Caufield & Byers
2750 Sand Hill Road
Menlo Park CA 94025
Attn: Isaac Ciechanover, MD

If to Amgen: Amgen Inc.
One Amgen Center Drive
Thousand Oaks, CA 91320
Attn: Corporate Secretary

Section 11.6 Compliance With Law; Severability. Nothing in this Agreement shall be construed to require the commission of any act contrary to Law. If any one or more provisions of this Agreement is held to be invalid, illegal or unenforceable, the affected provisions of this Agreement shall be curtailed and limited only to the extent necessary to bring it within the applicable legal requirements, and the validity, legality and enforceability of the remaining provisions of this Agreement shall not in any way be affected or impaired thereby.

Section 11.7 Non-Use of Names. Amgen shall not, and shall require its Affiliates not to, use the name, trademark, logo or physical likeness of Company or any of its officers, directors or employees, or any adaptation of any of them, in any advertising, promotional or sales literature, without such Company's prior written consent. Company shall not, and shall require its Affiliates not to, use the name, trademark, logo or physical likeness of Amgen or any of its officers, directors or employees, or any adaptation of any of them, in any advertising, promotional or sales literature, without Amgen's prior written consent.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Section 11.8 Successors and Assigns. Neither this Agreement nor any of the rights or obligations created herein, except for the right to receive any remuneration hereunder, may be assigned by either Party, in whole or in part, without the prior written consent of the other Party, not to be unreasonably withheld or delayed except that either Party shall be free to assign this Agreement in connection with any merger, sale of such Party or sale of all or substantially all of the assets of the Party relating to this Agreement (a **"Sale Transaction"**), without the prior consent of the non-assigning Party; *provided* that, in the case of a Sale Transaction of Company, the assignee shall be required to assume all of Company's obligations hereunder. This Agreement shall bind and inure to the benefit of the successors and permitted assigns of the Parties hereto. Any assignment of this Agreement in contravention of this Section 11.8 (Successors and Assigns) shall be null and void.

Section 11.9 Sale Transaction or Amgen Acquisition. In the event of (x) a Sale Transaction, or (y) the acquisition by Amgen of all or substantially all of the business of a Third Party (together with any entities that were Affiliates of such Third Party immediately prior to such acquisition, an **"Amgen Acquiree"**), whether by merger, sale of stock, sale of assets or otherwise (an **"Amgen Acquisition"**), the intellectual property rights of the acquiring party in a Sale Transaction, if other than one of the Parties to this Agreement (together with any entities that were affiliates of such Third Party immediately prior to such Sale Transaction, a **"Third Party Acquirer"**), or the Amgen Acquiree, as applicable, shall not be included in the technology licensed hereunder or otherwise subject to this Agreement.

Section 11.10 Waivers. A Party's consent to or waiver, express or implied, of the other Party's breach of its obligations hereunder shall not be deemed to be or construed as a consent to or waiver of any other breach of the same or any other obligations of such breaching Party. A Party's failure to complain of any act, or failure to act, by the other Party, to declare the other Party in default, to insist upon the strict performance of any obligation or condition of this Agreement or to exercise any right or remedy consequent upon a breach thereof, no matter how long such failure continues, shall not constitute a waiver by such Party of its rights hereunder, of any such breach, or of any other obligation or condition. A Party's consent in any one instance shall not limit or waive the necessity to obtain such Party's consent in any future instance and in any event no consent or waiver shall be effective for any purpose hereunder unless such consent or waiver is in writing and signed by the Party granting such consent or waiver.

Section 11.11 No Third Party Beneficiaries. Except as expressly provided with respect to Amgen Indemnified Parties and Company Indemnified Parties in Article 8 (Indemnification) and Amgen's licensees, nothing in this Agreement shall be construed as giving any Person, other than the Parties hereto and their successors and permitted assigns, any right, remedy or claim under or in respect of this Agreement or any provision hereof

Section 11.12 Headings; Schedules. Article and Section headings used herein are for convenient reference only, and are not a part of this Agreement. All Schedules are incorporated herein by this reference.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Section 11.13 Interpretation. Except where the context otherwise requires, wherever used, the singular shall include the plural and the plural the singular, the use of any gender shall be applicable to all genders and the word "or" is used in the inclusive sense (and/or). The term "including" as used herein shall mean including, without limiting the generality of any description preceding such term. All references to a "business day" or "business days" in this Agreement means any day other than a day which is a Saturday or Sunday or any day banks are authorized or required to be closed in the United States. The language in all parts of this Agreement shall be deemed to be the language mutually chosen by the Parties. The Parties and their counsel have cooperated in the drafting and preparation of this Agreement, and this Agreement therefore shall not be construed against any Party by virtue of its role as the drafter thereof.

Section 11.14 Counterparts. This Agreement may be executed in counterparts by a single Party, each of which when taken together shall constitute one and the same agreement, and may be executed through the use of facsimiles or electronically transmitted documents.

[Signature page follows]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first set forth above.

NINA BIOSCIENCES, INC.	AMGEN INC.
By: /s/ Isaac Ciechanover	By: /s/ Jonathan Peacock
Name: Isaac Ciechanover	Name: Jonathan Peacock
Title: President	Title: Executive Vice President and Chief Finance Officer

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Schedule

Business Plan

[Schedule begins on following page.]

ATARA BIOTHERAPEUTICS

KPCB | KLEINER PERKINS CAUFIELD BYERS

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Big Idea

- Innovative company model
  - Multiple shots on goal – three M&A stage programs in 3-4 years
  - [*]

- Novel products
  - De-risked portfolio of assets, in human POC achieved
  - Biology has applicability in multi-billion dollar indications: cancer, dialysis, aging…

- [*]

Atara Tx – Executive Team

Name	Role	Previous Experience
Isaac Ciechanover, MD	Founder, President, & CEO	• Partner KPCB's Life Sciences Group • Celgene, various roles in BD, Clinical Project Management
[*]		
Christopher Haqq, MD	CMO	• CEO Genomic Systems • VP Cougar/JNJ. Led pivotal Zytiga (abiraterone acetate) trial through global approvals • Dir. Amgen (3 INDs)
John McGrath	COO & Secretary	• Partner KPCB Operations Team • CFO of Network Equipment Technologies (NYSE Listed)

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Contributors

Scientific Advisory Board	Roles	Drugs Developed
[*]		
Consultants		
[*]		
Board Members		
[*]		

MUSCLE PORTFOLIO

TARGETING UNMET MEDICAL NEEDS

Muscle Wasting and Cachexia Represent A Large Unmet Medical Need

Muscle Wasting and Cachexia

Highly debilitating and life-threatening

Common to many major diseases:

- ***CKD***
- ***Cancer***
- ***CHF***
- ***AIDS***
- ***COPD***

Steve Jobs

Sept. 19, 2007 Sept. 9, 2008

About Renal Cachexia

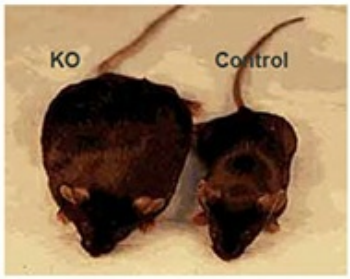
- [*]
- Correlates with death and hospitalization, with median survival 2 years worse than most cancers
- No effective treatment in the clinic

Patrick Swayze

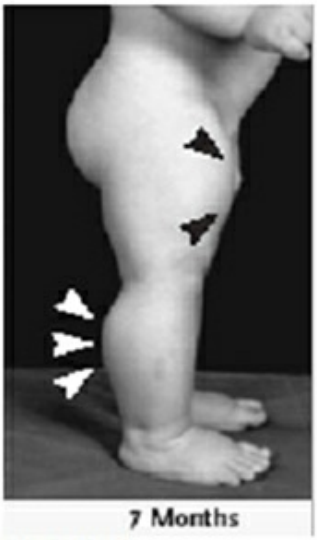
[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Myostatin Loss-of-Function Phenotype In Multiple Species Suggests A New Opportunity to Combat Muscle Wasting

McPherron AC & Lee SJ , *PNAS* (1997)
Grobet L. et al. *Nature Genet.* (1997)



McPherron AC, Lawler AM, Lee SJ. *Nature* (1997)



Schuelke M. et al.
New England Journal of Medicine (2004)

Mosher D, et al., PloS Genetics. (2007)

ATA 745

Executive Summary – ATA 745

Agent Type	Peptibody - a novel molecule engineered by fusing an IgG1 Fc domain to a peptide which inhibit Myostatin
Indication	Protein Energy Wasting in ESRD – a prevalent [*] condition associated with decreased physical function and increased mortality
Value Proposition	Based on preclinical and clinical data, ATA 745 may improve lean body mass, physical function and increase survival
Conviction	De-risked program: • Successfully achieved proof-of-concept tested in humans • Phase II ready (including materials)
Plan	• Team has developed a clinical strategy [*] • Regulatory & KOL discussions to inform program

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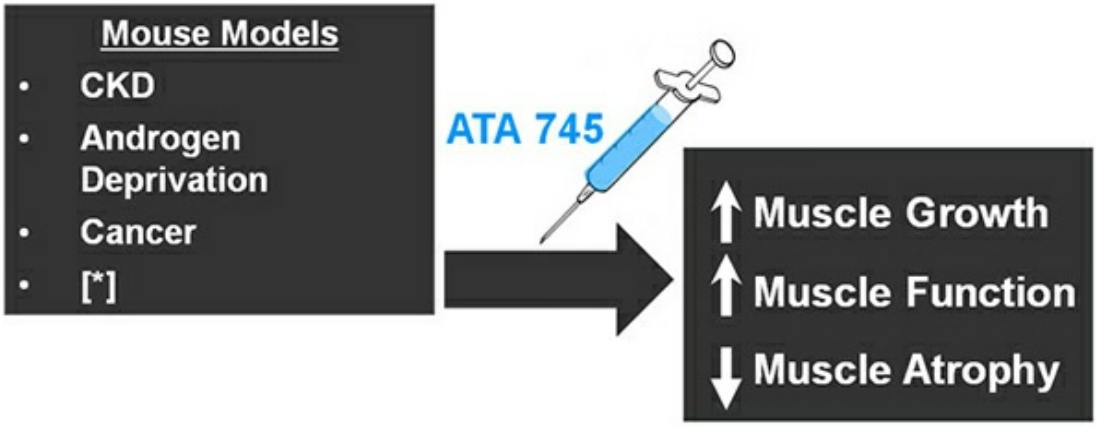
ATA-745 is an Anti-Myostatin Peptibody

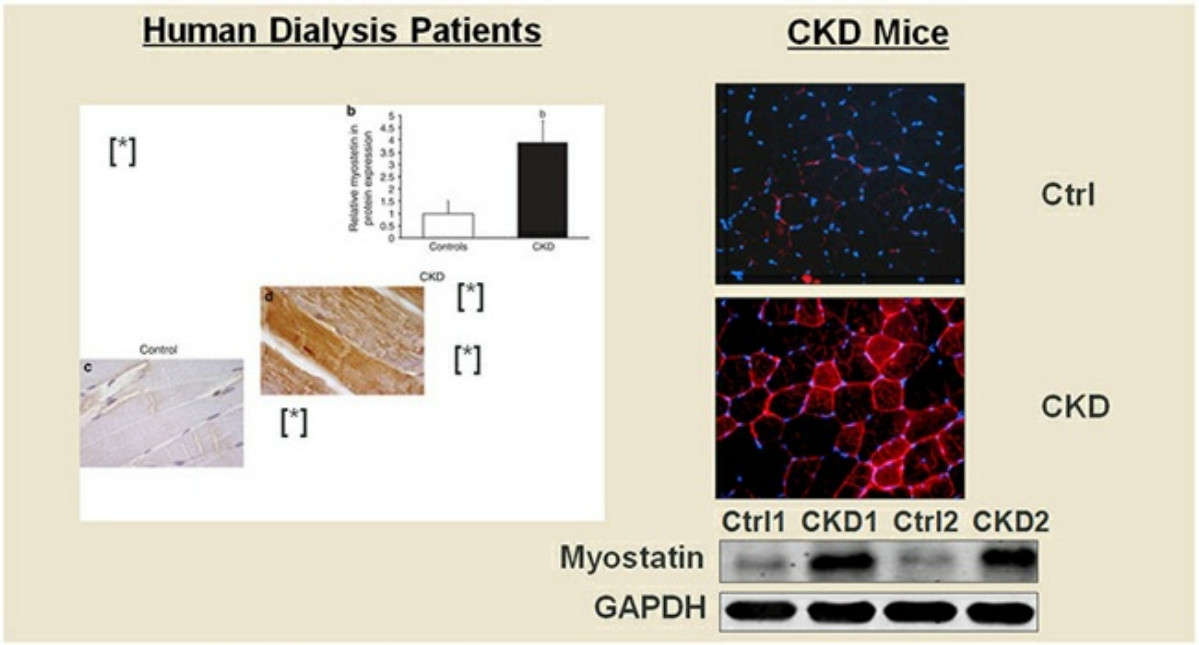
[*]

ATA 745 Stimulates Muscle Growth and Attenuates Muscle Wasting in Various Preclinical Models



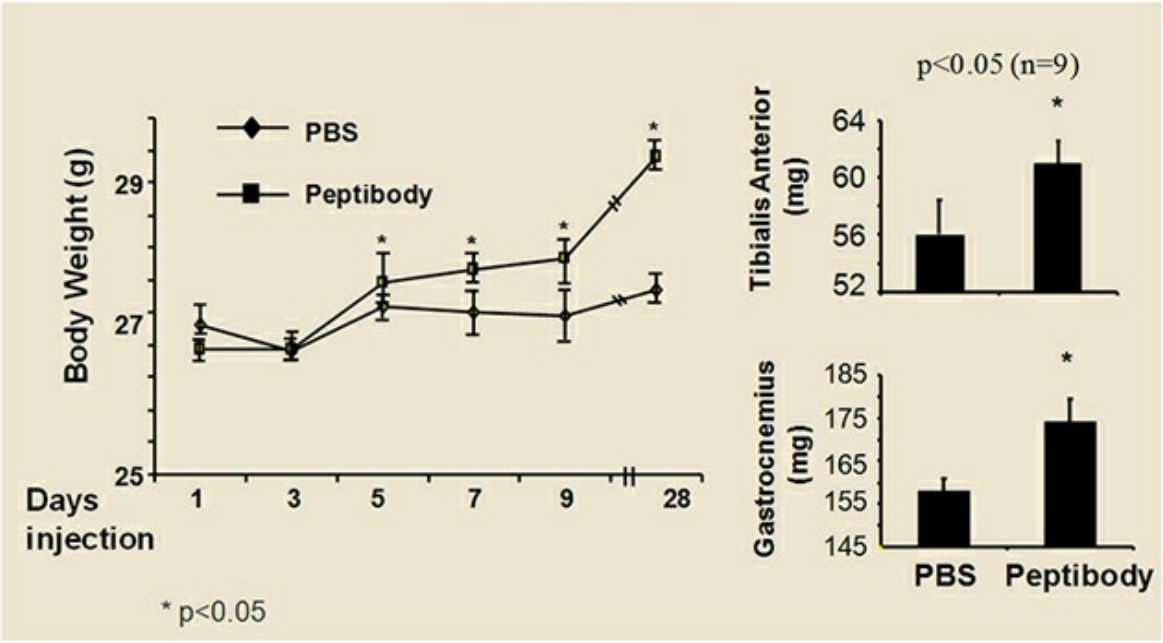
[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Myostatin Expression in Muscles Is Upregulated in Human CKD Patients and in CKD Mice

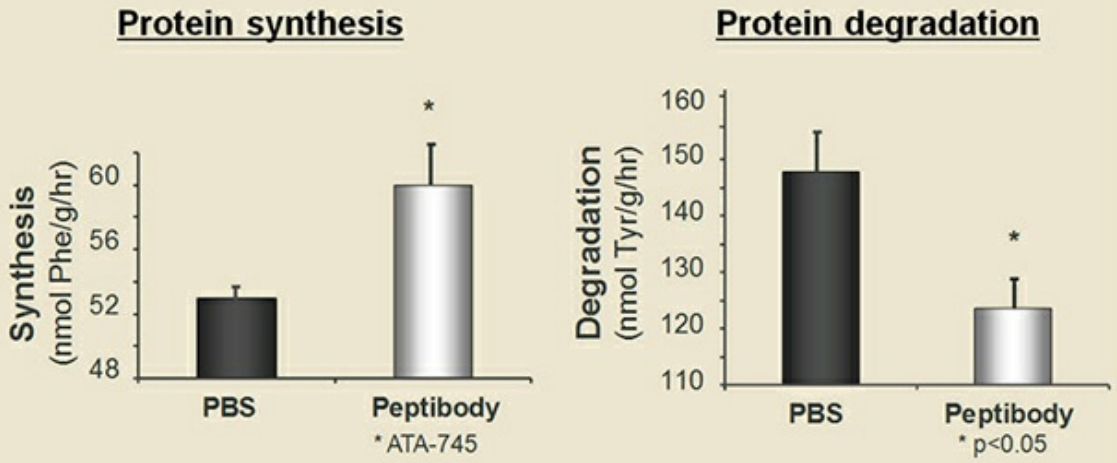


Verzola et al., 2011 Kidney International **79** *In collaboration with William E. Mitch*

ATA 745 Increases Body Weight and Muscle Mass in CKD Mice



ATA 745 Stimulates Protein Synthesis and Inhibits Protein Breakdown in Muscles in CKD Mice



The ATA 745 mechanism is via AKT stimulation and FOXO inhibition

ATA 745 Reduces TNF-a and IL-6 Key Mediators of Cachexia and Inflammation in CKD Mice

[*]

ATA-745 vs CKD:

	WT Control (pg/ml)	[*]	[*]	P Values	
				CKD vs. wt	Peptibody vs. PBS
TNF-α	*0.1±0.06*	[*]	[*]	*0.189*	*0.033**
IL-6	5.8±0.48	[*]	[*]	0.041*	*0.036**

ATA 745
Clinical Review and Next Steps

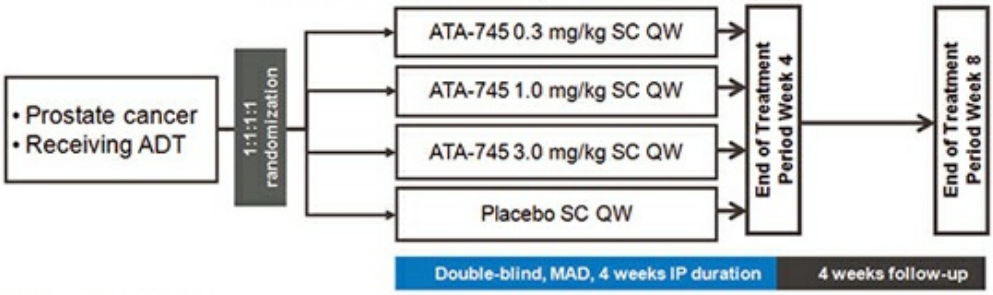
ATA 745 Toxicology [*]

Development

- [*]

[*] Multidose Phase I Study Design

Prostate cancer patients on androgen deprivation therapy (ADT) assessed for safety and efficacy



Efficacy End Points

•Change in

- Lean body mass (DEXA)
- lower-extremity muscle size (CT)
- [*]
- [*] also conducted Single Dose PK/Safety Phase 1

ATA 745 Pharmacokinetic Overview

PK Observation	Clinical Implication
[*]	

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ATA 745 Safety Profile

3 Phase 1 studies with 151 enrolled subjects
- 48 subjects exposed to highest dose 3mg/Kg

No treatment related SAEs across all studies

Identified risks from clinical trials:
- Injection site reaction
- [*]

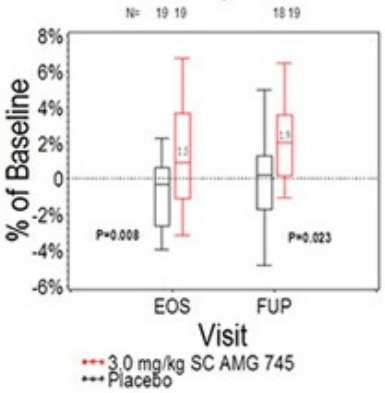
ATA-745 appears to be safe and well tolerated

[*]

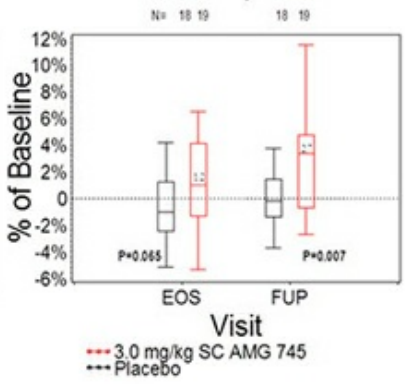
[*]

ATA 745 is the First Myostatin Antagonist to Show Muscle Growth Efficacy in Patients

Lean Body Mass



Lower Extremity Muscle Size



[*]

EOS: End-of-study (1 month); FUP: Follow-up-period (1 month)

Patients average age = 73 years; ADT = Androgen Deprivation Therapy

- Patients with ADT lose about ~4% muscle mass [*]
- One month treatment with ATA 745 increased muscle mass by ~2%

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ATA 745 CMC Characteristics

[*]

ATA 745 Clinical Plan

[*]

[*]

ATA 745 Development Plan

[*]

ATA 434/777

Executive Summary – ATA 777 or 434

Agent Type	• ATA 434 – soluble receptor fusion protein inhibiting ligands such as Myostatin and Activin [*] • ATA 777 – fully human antibody inhibiting Activin [*]
Indication	• Ovarian cancer – Annual WW death rate of 125,000 (15,000 in the US), ranking the disease as the deadliest cancer for women
Value Proposition	Preclinical data supports dual role in treating OC: • Anti-tumor effect in combination with chemotherapy • Anti-cachexia - preserving and growing muscle
Conviction	[*]
Plan	[*] • Regulatory & KOL discussions to inform program

Activin-A Is A Key Mediator of *BOTH* Ovarian Tumor Growth and Cachexia

Activin-A:

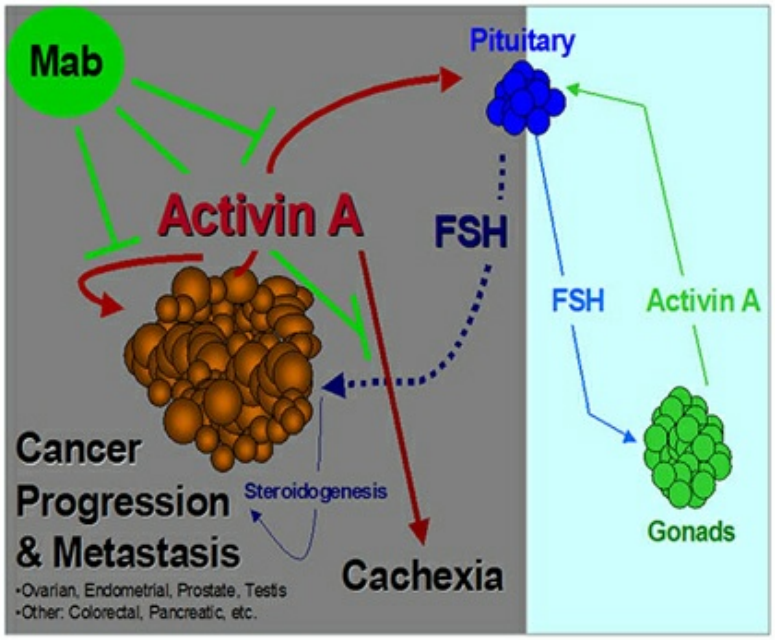
TGFβ family member originally identified in gonadal fluids

Physiology:

- Secreted by the gonads
- Stimulates FSH release in the pituitary – reg. ovarian cycle
- Paracrine factor in wound healing, cell proliferation and differentiation, immune response and angiogenesis

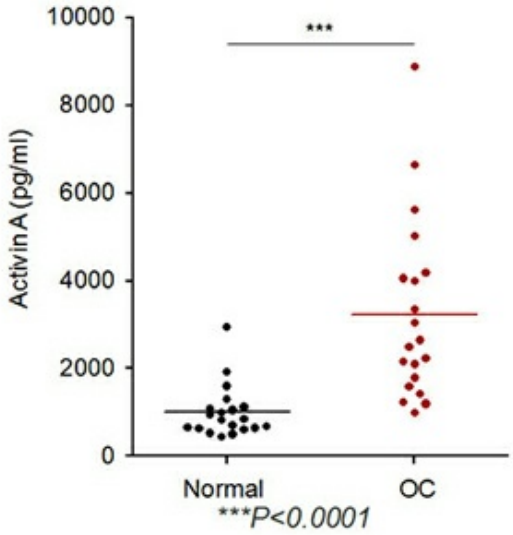
Pathophysiology:

- Elevated in cancer and inflammation
- Cancer cachexia
- Tumor Progression



Activin Levels Are Markedly Elevated in Patients with OC & May Serve as a Biomarker

[*] Serum Activin (ELISA)



Ovarian Cancer Literature

- Seventy-two percent of the stage III and IV patients (26/36), and none (0/5) of the stage I patients, had an elevated preoperative serum Activin level.

- In postoperative samples, Activin A levels were increased with persistent or recurrent (n = 9) stage III or IV ovarian cancer.

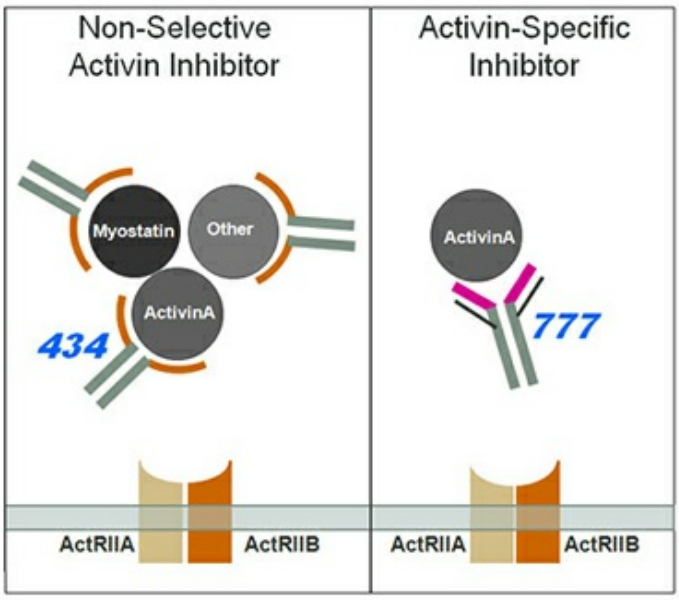
CONCLUSION:

- Serum Activin A levels correlate with recurrent or persistent disease in patients with epithelial ovarian cancer

- Activin Levels will be Evaluated as a Potential Predictive Biomarker in CKD Clinical Trials

Source: Lambert-Messerlian et al., 1999 Gynecol Oncol. 74(1):93-7

ATA 434 and 777 Potently Antagonize Activin-A, a Key Mediator of Ovarian Cancer Growth & Cachexia



434 [*]

Soluble ActRIIB decoy receptor [*] which sequesters Activin-A as well as myostatin and other closely related ligands

[*]

777 [*]

Fully human antibody [*]

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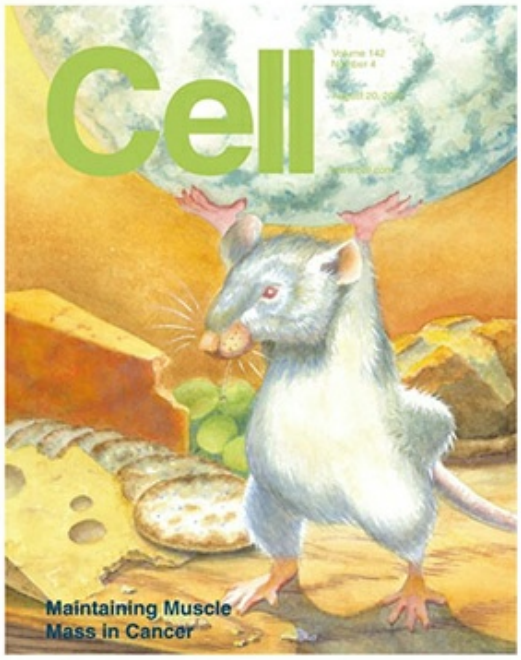
Reversal of Muscle Wasting Leads to Prolonged Survival in Cancer Mice



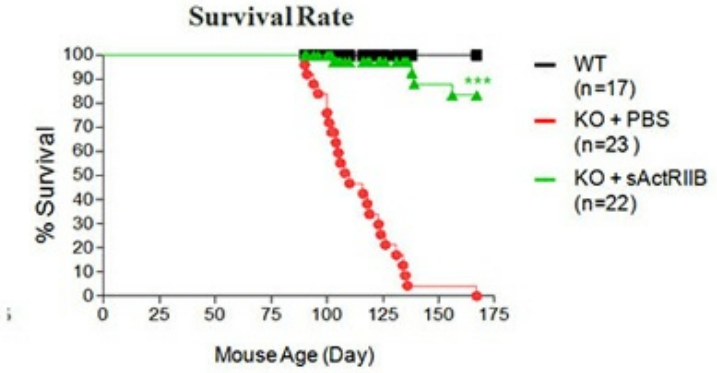
In tumor-bearing mice, blocking the Myostatin-Activin signaling pathway:

- Reversed muscle loss, cardiac atrophy, and anorexia
- Extended lifespan even without reducing tumor growth
- Suppressed Ub-proteasome system activity in skeletal muscle
- Stimulated muscle stem cell growth and muscle regeneration

ATA 434 Reverses Cachexia and Prolongs Survival in Mice with Ovarian Tumors

[*]

[*]



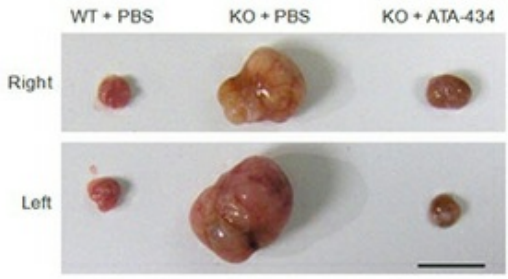
[*]

[*]

ATA 434 [*] Neutralize Activin and Regress Established Ovarian Tumors in Mice

[*]

Ovarian Tumor Size

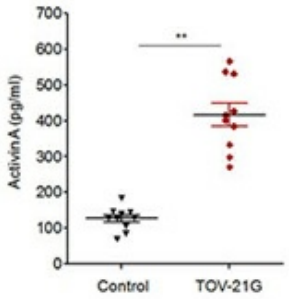


[*]

[*]

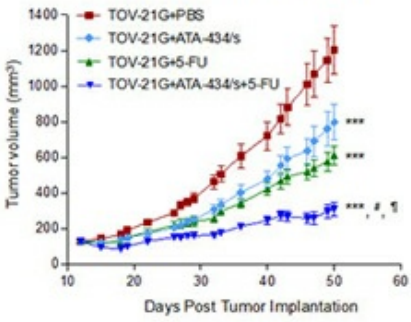
ATA 434 [*] Show Additive Antitumor Activity with Chemo in Ovarian Cancer Xenografts

Serum Activin A



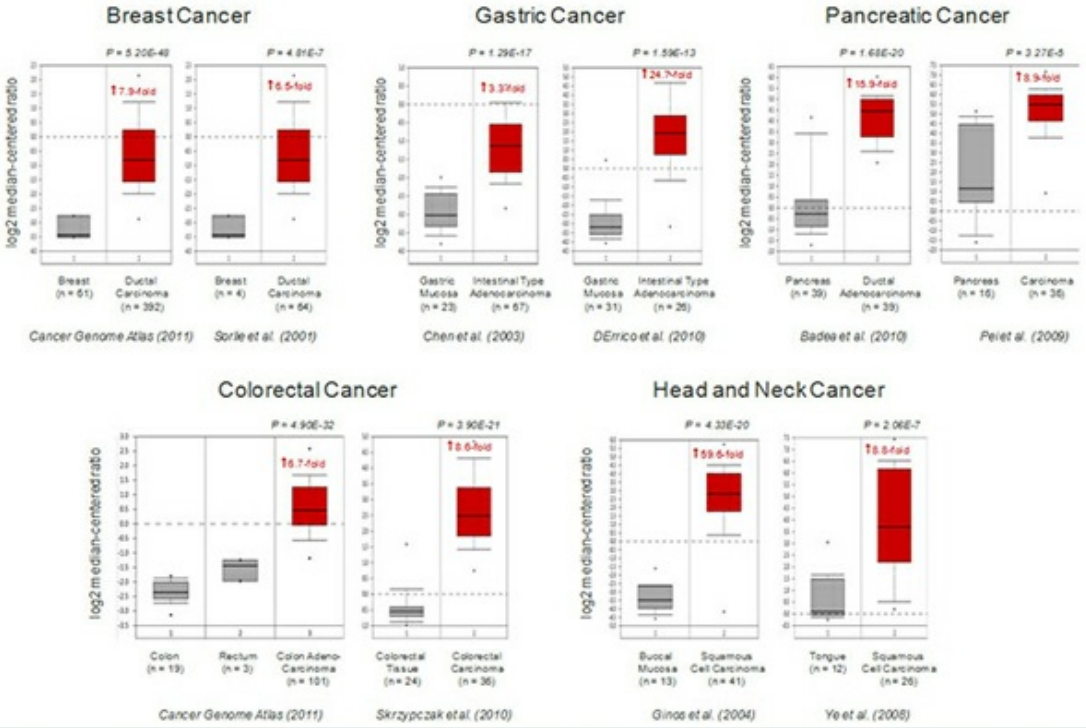
[*]

Additive Effect w/ 5-FU



[*] [*]

Beyond Ovarian Cancer, A Potential Role of Activin Inhibition Will be Explored



NEXT STEPS 434/777

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[*]

ATA 777 (vs ATA 434) Development Strategy

[*]

ATA 434 Development Plan

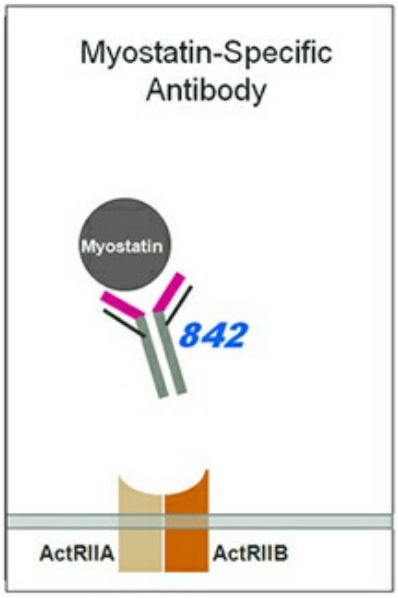
[*]

ATA 842

Executive Summary – ATA 842

Agent Type	Novel humanized antibody inhibiting Myostatin
Indication	• Cancer-related muscle loss is present in approximately 80% of patients with advanced cancer • Tremendous unmet need for an anabolic muscle agent like ATA 842 which can increase lean muscle mass, and potentially maintain physical function, quality life and extend survival
Value Proposition	Preclinical data in multiple animal models has shown: [*]
Conviction	Lilly advancing its own Myostatin antibody (LY2495655) in four phase II clinical trials, including cancer cachexia. ATA 842 is a superior antibody with greater selectivity. [*]
Plan	• Manufacture ATA 842 and conduct key pre-clinical studies to validate thesis [*] • Regulatory & KOL discussions to inform program

ATA 842 is a Potent Selective Myostatin Inhibitor



Humanized antibody [*], which inhibits Myostatin with a [*] selectivity [*]

[*]

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[*]

[*]

[*]

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ATA 842 Next Steps

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

ATA 842 Development Strategy

[*]

[*]

ATA 842 Development Plan

[*]

ATA 842 Next Steps

[*]

Financing & Budget

Budget and Financing Timing

[*]

Financing Plans and Deliverables

[*]

Schedule
Licensed Know-How

[*]
[12 pages omitted]

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Schedule

Licensed Materials

[*]

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Schedule

Licensed Patents

[*]

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Schedule

Milestones and Royalties

Milestone Payments: The Milestone Events and Milestone Payments to be made pursuant to Section 3.3 of the Agreement are as follows:

Milestone Event	Payment
Development Milestones, payable on a Product-by-Product basis	
[*]	[*]
Commercial Milestones with respect to Products	
[*]	[*]

* Notwithstanding anything to the contrary, if, [*], then this Milestone Payment shall not be payable until [*].

1. Royalties: The royalty rates payable under Section 3.4 of the Agreement with respect to Net Sales of Product(s) are as follows:

   (i) [*] on the portion of annual Net Sales for Products less than [*];

   (ii) [*] on the portion of annual Net Sales for Products between [*] and [*], inclusive; and

   (iii) [*] on the portion of annual Net Sales for Products greater than [*].

   For the avoidance of doubt, if a Product is Covered by more than one Licensed Patent, the above royalty shall be paid only once.

2. Third Party Payments. In the event that Company or any of its Affiliates or Sublicensees obtains a license under Patent Rights of a Third Party in any country in the Territory that Company or its Affiliate or Sublicensee, on the advice of patent counsel, determines, in the absence of a license thereunder, would be considered to be Infringed by the development, manufacture, use, sale, offer for sale or import of a Product sold by Company (or its Affiliate or Sublicensee) in such country (in each case, a **"Necessary Third Party License"**), then Company may deduct [*] of the royalties actually paid to such Third Party under such Necessary Third Party License with respect to sales of such Product in such country from the royalty payments owed to Amgen pursuant to Section 2 of this Milestones and Royalties Schedule with respect to Net Sales of such Product in such country.

3. No Valid Claim. In the event that any Product is not Covered by at least one (1) Valid Claim of a Licensed Patent within the Territory, then the royalty rates set forth in Section 2(b) of this Milestones and Royalties Schedule shall be reduced by [*] for such Product.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

4. Maximum Deduction. In no event, however, shall a deduction, or deductions, in the royalty rate pursuant to Section 3 of this Milestones and Royalties Schedule and Section 4 of this Milestones and Royalties Schedule, reduce the royalty rate payable by Company on Net Sales of a given Product during a given calendar quarter pursuant to Section 2 of this Milestones and Royalties Schedule by more than [*] in the aggregate.

5. Mutual Convenience of the Parties. The royalty and other payment obligations set forth hereunder have been agreed to by the Parties for the purpose of reflecting and advancing their mutual convenience, including the ease of calculating and paying royalties and other amounts to Amgen. Company hereby stipulates to the fairness and reasonableness of such royalty and other payment obligations and covenants not to allege or assert, nor to allow any of its Affiliates or Sublicensees to allege or assert, nor further to cause or support any other Third Parties to allege or assert, that any such royalty or other payment obligations are unenforceable or illegal in any way.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Schedule

Pre-Existing Agreements

[*]

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Schedule

Permitted CMOs

[*]

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Schedule

Press Release

[Schedule begins on following page.]

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Amgen to License Assets to Atara Biotherapeutics, Kleiner Perkins Caufield & Byers' (KPCB) Newly Formed Drug Development Company

September x, 2012, Thousand Oaks, CA — Amgen (NASDAQ: AMGN) and KPCB today announced an agreement that licenses six Amgen assets to Atara Biotherapeutics, a newly formed drug development company financed by KPCB. The in-licensed assets from Amgen are in various stages of development, from preclinical to early clinical. These drugs will form the foundation of Atara's focus on developing innovative drug therapies for patients with cancer and chronic diseases, including nephrology and oncology. Financial terms of the transaction are not being disclosed.

Atara will have facilities in both the Bay Area and Thousand Oaks, Calif., where it can help broaden the biotechnology hub around Amgen. The Atara leadership team will be comprised of individuals having previous experience from both Amgen and KPCB. Amgen will have a minority equity interest in Atara, with rights to an observer seat on Atara's Board of Directors.

> "Amgen is excited to partner with KPCB, a preeminent venture capital firm, to foster a creative business model that will help advance molecules in Amgen's pipeline to treat serious illness," said Sean E. Harper, M.D., executive vice president of Research and Development at Amgen. "The creation of Atara Biotherapeutics also provides the opportunity to further foster biotechnology innovation in Amgen's headquarters' communities."
>
> "The model for Atara will enable us to build on Amgen's research to bring a promising group of therapeutics to patients with serious illnesses, enabling them to have a better quality of life," said Dr. Isaac Ciechanover, CEO Atara Biotherapeutics (former partner at KPCB).

About Kleiner Perkins

Since its founding in 1972, Kleiner Perkins Caufield & Byers has backed entrepreneurs in more than 500 ventures including AOL, Amazon.com, Citrix, Compaq, Electronic Arts, Google, Groupon, Intuit, Juniper Networks, Netscape, Sun, Symantec, Verisign, webMD and Zynga. This also includes lifesciences companies Genentech, Genomic Health, Idec and Onyx to name a few. KPCB portfolio companies employ more than 350,000 people worldwide. More than 150 of the firm's portfolio companies have gone public, and many other KPCB ventures have achieved success through mergers and acquisitions. KPCB focuses its global investments in three practice areas - digital, greentech and life sciences - and provides entrepreneurs with company-building expertise out of its offices in Silicon Valley, Beijing and Shanghai.

About Amgen

Amgen discovers, develops, manufactures and delivers innovative human therapeutics. A biotechnology pioneer since 1980, Amgen was one of the first companies to realize the new science's promise by bringing safe, effective medicines from lab to manufacturing plant to patient. Amgen therapeutics have changed the practice of medicine, helping millions of people around the world in the fight against cancer, kidney disease, rheumatoid arthritis, bone disease and other serious illnesses. With a deep and broad pipeline of potential new medicines, Amgen remains committed to advancing science to dramatically improve people's lives. To learn more about our pioneering science and vital medicines, visit http://www.amgen.com/. Follow us on http://twitter.com/amgen.

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Schedule

Products

[*]

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Exhibit 10.18

EXCLUSIVE LICENSE AGREEMENT

by and between

AMGEN INC.

and

PINTA BIOSCIENCES, INC.

Dated as of September 7, 2012

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

LIST OF SCHEDULES

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EXCLUSIVE LICENSE AGREEMENT

This **EXCLUSIVE LICENSE AGREEMENT** (this "**Agreement**") is entered into as of September 7, 2012 (the "**Signing Date**") by and between **AMGEN INC.**, a Delaware corporation having an address at One Amgen Center Drive, Thousand Oaks, California 91320 ("**Amgen**"), and **PINTA BIOSCIENCES, INC.,** a Delaware corporation ("**Company**"). Company and Amgen are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties**".

RECITALS

WHEREAS, Amgen is a company engaged in the research, development, manufacturing and commercialization of pharmaceutical and biotechnology products;

WHEREAS, Amgen possesses certain rights to patents and other intellectual property related to its proprietary compound AMG 745, comprising the amino acid sequence set forth on the Product Schedule (the "**Product**");

WHEREAS, Company desires to license from Amgen such intellectual property rights, and to commercially develop, manufacture, use and distribute the Product based upon the same throughout the Territory (defined below); and

WHEREAS, Amgen desires to grant such a license to Company in accordance with the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual promises and covenants contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto agree as follows:

ARTICLE 1 DEFINITIONS

All references to particular Schedules, Articles or Sections shall mean the Schedules to, and Articles and Sections of, this Agreement, unless otherwise specified. For the purposes of this Agreement and the Schedules hereto, the following words and phrases shall have the following meanings:

"**Abandoned Patent Right**" has the meaning set forth in Section 4.2 (Amgen Step-In Right).

"**Affiliate**" means, with respect to any Person, any other Person which controls, is controlled by or is under common control with such Person, for as long as such control exists. For purposes of this Section, "control" means the direct or indirect ownership of more than fifty percent (50%) of the voting or economic interest of a Person, or the power, whether pursuant to contract, ownership of securities or otherwise, to direct the management and policies of a Person. For clarity, once a Person ceases to be an Affiliate of a Party, then, without any further action, such Person shall cease to have any rights, including license and sublicense rights, under this Agreement by reason of being an Affiliate of such Party.

"**Agreement**" has the meaning set forth in the Preamble.

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"**Amgen**" has the meaning set forth in the Preamble.

"**Amgen Acquiree**" has the meaning set forth in Section 11.9 (Sale Transaction or Amgen Acquisition).

"**Amgen Acquisition**" has the meaning set forth in Section 11.9 (Sale Transaction or Amgen Acquisition),

"**Amgen Cell Line**" shall mean the proprietary cell line that Amgen has developed for the generation of the Product. For avoidance of doubt, the Amgen Cell Line is a Licensed Material hereunder.

"**Amgen Indemnified Parties**" has the meaning set forth in Section 8.1.2 (By Company).

"**Audited Party**" has the meaning set forth in Section 3.9 (Records and Audits).

"**BLA**" means (a) a Biologics License Application, supplemental Biologics License Application, or similar application filed or to be filed with the FDA, as described in Title 21 of the U.S. Code of Federal Regulations, Part 601, *et seq.*, or (b) any corresponding foreign application in another country or regulatory jurisdiction in the Territory, including, in the case of the European Union, a Marketing Approval Application filed with the EMA pursuant to the centralized approval procedure or with the applicable Regulatory Authority of a country in the European Union with respect to the mutual recognition or any other national approval procedure.

"**cGMP**" means the FDA's current good manufacturing practices, as specified in 21 C.F.R. §§ 210 and 211 and the FDA's guidance documents and all successor regulations and guidance documents thereto, and foreign equivalents thereof with respect to the European Union and Canada.

"**Closing Date**" means the first date on which the Company sells Series A Preferred Stock and Series A-1 Preferred Stock to its initial investors, including Amgen.

"**Commercially Reasonable Efforts**" means those efforts and resources commensurate with those efforts commonly used in the biopharmaceutical industry by a company of comparable size in connection with the development or commercialization of biopharmaceutical products that are of similar status, including, with respect to commercial potential, the proprietary position of the product, the regulatory status and approval process, the probable profitability of the applicable product, and other relevant factors such as technical, legal, scientific or medical factors. In determining the level of efforts constituting "**Commercially Reasonable Efforts**," the following shall [*].

"**Company**" has the meaning set forth in the Preamble.

"**Company Indemnified Parties**" has the meaning set forth in Section 8.1.1 (By Amgen).

"**Confidential Information**" has the meaning set forth in Section 9.1.1 (Confidential Information).

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"**Control**" or "**Controlled**" means, with respect to any Know-How, material, Patent Right, or other intellectual property right, the possession (whether by ownership or license) by a Party or its Affiliates of the ability to grant to the other Party a license or access as provided herein to such Know-How, material, Patent Right, or other intellectual property right, without violating the terms of any agreement or other arrangement with any Third Party, or being obligated to pay any royalties or other consideration therefor, in existence as of the time such Party or its Affiliates would first be required hereunder to grant the other Party such license or access.

"**Cover**" means (a) with respect to Licensed Know-How, the Exploitation of the product would require use of such Licensed Know-How, and (b) with respect to a Patent Right, a Valid Claim would (absent a license thereunder or ownership thereof) be Infringed by the Exploitation of the product; *provided* that in determining whether a Valid Claim that is a claim of a pending application would be Infringed, it shall be treated as if issued as then currently prosecuted. Cognates of the word "**Cover**" shall have correlative meanings.

"**Defending Party**" has the meaning set forth in Section 4.4 (Defense of Third Party Claims).

"**Diligence Notice**" has the meaning set forth in Section 5.2 (Diligence).

"**Disclosing Party**" has the meaning set forth in Section 9.1.1 (Confidential Information).

"**Dispute**" has the meaning set forth in Section 10.2.1(b).

"[*] **Agreement**" means that certain [*] Agreement, dated as of [*], between Amgen and [*], which agreement is one of the Pre-Existing Agreements hereunder.

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

"**Enforcing Party**" has the meaning set forth in Section 4.3.3 (Progress Reports; Participation).

"**Exploit**" means to research, develop, improve, make, use, offer for sale, sell, import, export or otherwise exploit, or transfer possession of or title in, a product. Cognates of the word "Exploit" shall have correlative meanings.

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

"**Field**" means any and all human and veterinary uses.

"**First Commercial Sale**" means, with respect to the Product in any country, the first sale to a Third Party for end use or consumption of the Product in such country after a BLA has been granted in such country for the Product.

"**Framework Patents**" means any Patent Right (other than a Licensed Patent) Controlled by Amgen or its Affiliates as of the Effective Date that: (i) has a claim that is infringed by the amino acid sequence of the Product, (ii) has a claim that is infringed by a nucleic acid sequence that encodes the amino acid sequence of the Product, or (iii) has a claim that claims Licensed Know How.

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"**FTE**" means the equivalent of the work of one employee full time for one year consisting of at least a total of [*] weeks or [*] hours per year (excluding vacations and holidays). No one person shall be permitted to account for more than one FTE.

"**FTE Rate**" means $[*] per FTE per year.

"**GAAP**" means the then-current generally accepted accounting principles in the United States as established by the Financial Accounting Standards Board or any successor entity or other entity generally recognized as having the right to establish such principles in the United States, in each case consistently applied. Unless otherwise defined or stated herein, financial terms shall be calculated under GAAP.

"**Governmental Authority**" means any court, agency, department, authority or other instrumentality of any national, state, county, city or other political subdivision.

"**IND**" means an Investigational New Drug Application filed with the FDA for human clinical testing of a drug or any foreign equivalent thereof.

"**Indication**" means the disease or condition for which an IND has been filed.

"**Infringe**" or "**Infringement**" means any infringement as determined by Law, including, without limitation, direct infringement, contributory infringement or any inducement to infringe.

"**Issuing Party**" has the meaning set forth in Section 9.2.2 (Review),

"**Japan Agreement**" means (a) the Takeda License Agreement or (b) following any termination of the Takeda License Agreement with respect to the Product, any agreement whereby the Japan Licensee has received the authorization to develop and/or commercialize the Product in Japan.

"**Japan Licensee**" means (a) Takeda or (b) following any termination of the Japan Agreement with respect to the Product, any Person who has rights to develop and/or commercialize the Product in Japan, including Amgen and/or its Affiliates if Amgen elects to retain any rights to develop and/or commercialize the Product in Japan.

"**Know-How**" means techniques, technology, trade secrets, inventions (whether patentable or not), methods, know-how, data and results (including pharmacological, toxicological and clinical data and results), analytical and quality control data and results, regulatory documents, and other information, compositions of matter, cells, cell lines, assays, animal models and other physical, biological, or chemical material.

"**Law**" means, individually and collectively, any and all laws, ordinances, rules, directives, administrative circulars and regulations of any kind whatsoever of any Governmental Authority within the applicable jurisdiction.

"**Licensed Know-How**" means all Know-How that both (a) is Controlled by Amgen and (b) was actually used by Amgen in its development of the Product at such time as Amgen last actively developed the Product prior to the Closing Date, including the Know-How set forth on the

Licensed Know-How Schedule; *provided* that manufacturing process-related Know-How relating to the Product shall only be included in "Licensed Know-How" to the extent Amgen actually used such Know-How in its manufacture of the Product Lots. [*]

"**Licensed Materials**" means those certain materials set forth on the Licensed Materials Schedule.

"**Licensed Patents**" means the Patent Rights set forth on the Licensed Patents Schedule.

"**Losses**" has the meaning set forth in Section 8.1.1 (By Amgen).

"**Marketing Approval**" means all approvals, licenses, registrations or authorizations of the Regulatory Authority in a country, necessary for the manufacture, use, storage, import, marketing and sale of the Product in such country.

"**Milestone Events**" has the meaning set forth in Section 3.3 (Milestone Payments).

"**Milestone Payments**" has the meaning set forth in Section 3.3 (Milestone Payments).

"**Net Sales**" means the gross sales price of the Product sold by Company, its Affiliates or Sublicensee(s) (the "**Selling Party**") for the sale of the Product to Third Parties, less:

(a) non-recoverable sales taxes, excise taxes, use taxes, value-added tax, and duties paid by the Selling Party in relation to the Product and any other equivalent governmental charges imposed upon the importation, use or sale of the Product (excluding taxes when assessed on income derived from sales);

(b) credits and allowances (actually allowed or paid) for defective or returned Product, including allowances for spoiled, damaged, out-dated, rejected, returned, withdrawn or recalled Product;

(c) reasonable fees paid to wholesalers, distributors, selling agents (excluding any sales representatives of a Selling Party), group purchasing organizations, Third Party payors, other contractees and managed care entities;

(d) reasonable transportation charges relating to the Product, including handling charges and insurance premiums relating thereto to the extent included as a separate entry on the invoice for such product (*provided* that [*] items in this clause (d) shall [*] for the relevant period);

(e) retroactive price reductions actually granted to the Third Party applicable to sales of such product;

(f) trade, cash, prompt payment and/or quantity discounts, actually allowed and taken directly by the Third Party, and mandated discounts; and

(g) refunds, rebates, chargebacks and other allowances or payments to Governmental Authorities.

Net Sales shall be determined from books and records maintained in accordance with GAAP, consistently applied throughout the organization and across all products of the entity whose sales of Product are giving rise to Net Sales.

Where a Product is sold in combination with other therapeutically active ingredients, the Net Sales applicable to such transaction shall be calculated by multiplying the total Net Sales of such combined product by the fraction A/(A+B), where A is the actual price of the Product in the same dosage amount or quantities hi the applicable country during the applicable quarter if sold separately, and B is the sum of the actual prices of all other therapeutics with which the Product is combined, in the same dosage amount or quantities in the applicable country during the applicable quarter if sold separately. If A or B cannot be determined because values for the Product or other therapeutics with which the Product is combined are not available separately in a particular country, then Amgen and Company shall discuss an appropriate allocation for the fair market value of the Product and other therapeutics with which the Product is combined to mutually determine Net Sales for the relevant transactions based on an equitable method of determining the same that takes into account, in the Territory, variations in potency, the relative contribution of each therapeutically active ingredient, and relative value to the end user of each therapeutically active ingredient.

Net Sales shall also include, with respect to any Product sold or otherwise disposed of for any consideration other than an exclusively monetary consideration on bona fide arm's length terms, an amount equal to the average sales price for the Product having the same dosage form and strength during the applicable reporting period in the country where such sale or other disposal occurred when the Product is sold alone and not with other products, or if the Product is not sold alone in such country during the applicable reporting period, then an amount equal to the average sales price during the applicable reporting period generally achieved for the Product having the same dosage form and strength in the rest of the Territory.

Sales of Product between or among Company and its Affiliates or Sublicensees shall be excluded from the computation of Net Sales and no payments shall be payable on such sales except where such Affiliates or Sublicensees are end users.

"**Out-License**" has the meaning set forth in Section 2.3 (Right of Notification).

"**Out-License Fees**" has the meaning set forth in Section 3.5 (Product Sublicensing Income).

"**Party**" has the meaning set forth in the Preamble.

"**Patent Rights**" means any provisional and non-provisional patents and patent applications, together with all additions, divisions, continuations, continuations-in-part, substitutions, reissues, re-examinations, issued patents, substitutes, foreign counterparts, extensions, registrations, patent term extensions, supplemental protection certificates, renewals and the like with respect to any of the foregoing.

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"**Permitted CMO**" means (a) a Third Party commercial manufacturing organization identified on the attached Permitted CMO Schedule (and all such Third Party's Affiliates), as such schedule may be updated by mutual written agreement by the Parties from time to time or (b) any other party deemed to be a Permitted CMO pursuant to the terms of Section 2.4.2.

"**Permitted CMO Agreement**" has the meaning set forth in Section 2.4.2(a) (Transfer of Licensed Know-How and Licensed Materials).

"**Permitted CMO Request**" has the meaning set forth in Section 2.4.2(d) (Transfer of Licensed Know-How and Licensed Materials).

"**Person**" means any corporation, limited or general partnership, limited liability company, joint venture, trust, unincorporated association, governmental body, authority, bureau or agency, any other entity or body, or an individual.

"**Phase 1 Clinical Trial**" means any human clinical trial of the Product that satisfies the requirements of 21 C.F.R. § 312.21(a), or its successor regulation, or its non-United States equivalents, including the portion of a combination Phase 1 Clinical Trial and Phase 2 Clinical Trial that is the Phase 1 component, in accordance with the applicable protocol and as reasonably designated by Company.

"**Phase 2 Clinical Trial**" means any human clinical trial of the Product that satisfies the requirements of 21 C.F.R. § 312.21(b), or its successor regulation, or its non-United States equivalents, including the portion of a combination Phase 2 Clinical Trial and Phase 3 Clinical Trial that is the Phase 2 component, in accordance with the applicable protocol and as reasonably designated by Company.

"**Phase 3 Clinical Trial**" means any human clinical trial of the Product that satisfies the requirements of 21 C.F.R. § 312.21(c), or its successor regulation, or its non-United States equivalents, including the portion of a combination Phase 2 Clinical Trial and Phase 3 Clinical Trial that is the Phase 3 component, in accordance with the applicable protocol and as reasonably designated by Company.

"**Pivotal Trial**" means (a) a Phase 2 Clinical Trial, or a combination Phase 2 Clinical Trial and Phase 3 Clinical Trial, that (taken together with any other trials completed prior to or concurrently with such trial) is intended to support Marketing Approval for the Product by the relevant Regulatory Authority in the indication under study, or (b) a Phase 3 Clinical Trial.

"**Pre-Existing Agreements**" means those agreements listed on the Pre-Existing Agreements Schedule.

"**Product**" has the meaning set forth in the Recitals.

"**Product Data**" means all data, reports, records, materials and other Know-How that relate to Product.

"**Product Lots**" has the meaning set forth in Section 5.4 (Product Supply).

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"**Product Technology**" means the Licensed Patents and the Licensed Know-How.

"**Quality Agreement**" means that certain quality agreement, by and between the Parties, to be entered into as of the Closing Date and to be attached substantially in the form of hereto as the Quality Agreement Schedule.

"**Receiving Party**" has the meaning set forth in Section 9.1.1 (Confidential Information).

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

"**Regulatory Change**" has the meaning set forth in Section 5.2 (Diligence).

"**Regulatory Exclusivity**" means, with respect to the Product in a country, any exclusive marketing rights or data exclusivity rights conferred by the applicable Regulatory Authority in such country with respect to the Product, other than a Patent Right.

"**Regulatory Filing**" means any filing with any Governmental Authority with respect to the research, development, manufacture, distribution, pricing, reimbursement, marketing or sale of the Product.

"**Release**" has the meaning set forth in Section 9.2.2 (Review).

"**Reviewing Party**" has the meaning set forth in Section 9.2.2 (Review),

"**Royalty Term**" has the meaning set forth in Section 3.4 (Royalties).

"**Sale Transaction**" has the meaning set forth in Section 11.8 (Successors and Assigns).

"**Selling Party**" has the meaning set forth in the definition of "Net Sales".

"**Signing Date**" has the meaning set forth in the Preamble.

"**Specified Diligence Failure**" has the meaning set forth in Section 5.2 (Diligence).

"**Sublicensee(s)**" means any Person other than an Affiliate of Company to which Company has granted a sublicense under this Agreement.

"**Supply Agreement**" means that certain supply agreement, by and between the Parties, to be entered into as of the Closing Date and to be attached substantially in the form of hereto as the Supply Agreement Schedule.

"**Takeda**" means Takeda Pharmaceutical Company Limited] or any successor or permitted assignee of Takeda.

"**Takeda License Agreement**" means that certain License Agreement, dated as of February 1, 2008, by and between Amgen and Takeda, as amended.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

"**Term**" has the meaning set forth in Section 10.1 (Term).

"**Territory**" means the entire world, excluding Japan.

"**Third Party**" means a Person other than (a) Amgen or any of its Affiliates and (b) Company or any of its Affiliates.

"**Third Party Acquirer**" has the meaning set forth in Section 11.9 (Sale Transaction or Amgen Acquisition).

"**Third Party Payment**" has the meaning set forth in Section 6.4 (Product Data; Regulatory).

"**United States**" or "U.S." means the United States of America (including the District of Columbia).

"**Valid Claim**" means a claim of any issued and unexpired patent or patent application within the Licensed Patents and that has not been held invalid or unenforceable by a final decision of a court or governmental agency of competent jurisdiction, which decision can no longer be appealed or was not appealed within the time allowed; *provided* that if a claim of a pending patent application within the Licensed Patents [*], such claim shall not constitute a Valid Claim for the purposes of this Agreement [*].

ARTICLE 2 LICENSE GRANT; CLOSING

Section 2.1 Grant. Subject to the terms and conditions of this Agreement, commencing on the Closing Date, Amgen hereby grants to Company (a) an exclusive (even as to Amgen and its Affiliates), royalty bearing, sublicenseable (but only in accordance with Section 2.2 (Sublicenses) and Section 2.3 (Right of Notification)), license under the Licensed Patents, (b) a non-exclusive, royalty bearing, sublicenseable (but only in accordance with Section 2.2 (Sublicenses) and Section 2.3 (Right of Notification)) license under the Licensed Know-How, and (c) an exclusive (even as to Amgen and its Affiliates) license and right of reference, with the right to grant sublicenses and further rights of reference (but only in accordance with Section 2.2 (Sublicenses) and Section 2.3 (Right of Notification)), under any existing Regulatory Filings that Amgen or any of its Affiliates Controls with respect to the Product; in each case, to Exploit the Product in the Field in the Territory during the Term. Notwithstanding the foregoing, the Licensed Know-How shall be sublicenseable only in connection with the rights of Company with respect to the Product and not with respect to any other products or services.

2.1.1 Covenant Not to Sue. In addition to the licenses set forth in this Section 2.1 (Grant) above, commencing on the Closing Date, Amgen hereby covenants not to sue Company, its Affiliates or any Sublicensee under the Framework Patents with respect to the Exploitation of the Product in the Field in the Territory. Subject to Section 11.8 (Successors and Assigns), the Company may transfer this Covenant Not to Sue. Amgen shall require any Amgen successor in interest to the Framework Patents to also covenant not to sue Company, its Affiliates or any Sublicensee under the Framework Patents with respect to the Exploitation of the Product in the Field in the Territory. Should Amgen fail to secure such a covenant from a successor in interest, then immediately prior to the transfer of the Framework Patents to the successor in interest, Amgen will be deemed to have granted to Company a non-exclusive, fully paid-up, royalty-free, sublicenseable license under the Framework Patents to Exploit the Product in the Field in the Territory during the Term.

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Section 2.2 Sublicenses. Subject to compliance by Company with its obligations under Section 2.3 (Right of Notification) below, commencing on the Closing Date, the licenses granted in Section 2.1 (Grant) (including, if applicable, in the last sentence of Section 2.11 (Covenant Not to Sue)) may be sublicensed, in full or in part, by Company to its Affiliates and Third Parties (with the right to sublicense through multiple tiers), *provided* that as a condition precedent to and requirement of any such sublicense:

(a) Any such permitted sublicense shall be in writing and shall be consistent with and subject to the terms and conditions of this Agreement;

(b) Company shall be responsible for any and all obligations of such Sublicensee as if such Sublicensee were "Company" hereunder; and

(c) Any such Sublicensee shall agree in writing to be bound by the substantially similar obligations of Company hereunder that are relevant to the rights sublicensed by Company to Sublicensee under such sublicense agreement, including with respect to Article 9 (Confidentiality), and Sections 2.7 (Limited Exploitation Rights), 8.1 (Indemnity), 10.2.2 (Termination for IP Challenge), and 10.5 (Effects of Termination).

Company shall provide Amgen, within [*] days following execution of each sublicense, prompt written notice thereof (which notice shall include the name of the Sublicensee and the general scope of such sublicense). Thereafter, upon Amgen's reasonable request, Company shall provide to Amgen a copy of any such sublicense agreement executed by Company; *provided* that the financial terms (and any other terms Company is required to keep confidential) of any such sublicense agreement may be redacted to the extent not pertinent to an understanding of a Party's rights or obligations under this Agreement.

Section 2.3 Right of Notification.

2.3.1 Intentionally omitted.

2.3.2 If Company's board of directors approves the initiation of a process for the grant of a sublicense to a Third Party for development and/or commercialization of the Product (an "**Out-License**"), then Company shall notify Amgen in writing in advance (*provided* that a signed letter sent via electronic or facsimile transmission shall qualify as such written notice) and provide the intended scope (*i.e.*, field, territory and other relevant terms) of the Out-License.

2.3.3 Upon the Completion of an Initial Public Offering (as defined in the investor rights agreement to be entered into by the Parties) or a sale of all or substantially all of Company's assets or business, Amgen's rights under this Section 2.3 (Right of Notification) shall terminate.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Section 2.4 Transfer of Licensed Know-How and Licensed Materials. Amgen shall transfer to Company (or, in the case of Amgen's transfer of the Amgen Cell Line, to the Permitted CMO) the Licensed Know-How listed on the Licensed Know-How Schedule and the Licensed Materials listed on the Licensed Materials Schedule, in accordance with a schedule to be mutually agreed by the Parties (*provided* such transfer must be completed within [*] after the Closing Date), and provide limited consulting support, in accordance with this Section 2.4 (Transfer of Licensed Know-How and Licensed Materials). Following the Signing Date, the Parties will in good faith reasonably cooperate to review and, if necessary, update the Licensed Know-How and Licensed Materials Schedules to correct and/or supplement such Schedules (and, as necessary, timely deliver the relevant Licensed Know-How and Materials to the Company.

2.4.1 Amgen shall provide, at its expense, consulting support (not to exceed [*] in the aggregate) in connection with such transfer and the Exploitation of the Product in the Territory during the [*] period after the Closing Date. If Company requires additional consulting support in excess of [*] in the aggregate or beyond such period after the Closing Date in connection with such transfer or the Exploitation of the Product in the Territory, then Company may request such additional support in writing. Amgen shall notify Company within [*] after receipt of such request whether it, in its sole discretion, is willing to provide such additional consulting support, which support shall be at Company's expense, at the FTE Rate for the relevant Amgen employees.

2.4.2 With respect to Amgen's transfer of the Amgen Cell Line, the Parties agree that the following procedures shall apply:

(a) Prior to such transfer, Company shall designate, and enter into a binding agreement with, one of the Permitted CMOs, which agreement shall provide for, among other things, (i) confidentiality and non-use provisions at least as protective as those set forth hereunder under Section 9.1 (Confidential Information) and (ii) such additional provisions as are required to comply with the manufacturing and other limitations set forth in this Section 2.4.2 (such agreement, the "**Permitted CMO Agreement**"). Upon Amgen's reasonable request, Company shall provide to Amgen a copy of any such Permitted CMO Agreement (including any material amendment thereto) executed by Company; *provided* that the financial terms (and any other terms Company is required to keep confidential) of any such agreement may be redacted to the extent not pertinent to Amgen's confirmation of the restrictive provisions set forth in this Section 2.4.2. Notwithstanding anything to the contrary, Company and Company's Sublicensees are deemed Permitted CMOs, and shall not be required to enter into a Permitted CMO Agreement prior to receiving the Amgen Cell Line or conducting any manufacturing activities in connection therewith, and Amgen shall deliver such cell lines to Company and/or Company's Sublicensees within a reasonable time following Company's written request. For avoidance of doubt, if Company (itself, or through a third party, Affiliate, or Sublicensee) [*] (excluding any [*], but including any [*]) [*], such [*] shall [*], and the Permitted CMO restrictions set forth herein shall [*].

(b) Following Company's and such Permitted CMG's entry into the Permitted CMO Agreement, Amgen shall, at the direction of Company, transfer the Amgen Cell Line to the Permitted CMO to generate the Product.

(c) Company agrees that it shall not, and it shall use its commercially reasonable efforts to cause the Permitted CMO not to: (i) reverse engineer or otherwise deconstruct the Amgen Cell Line or the initial Amgen cell culture media provided therewith, or to determine or to seek to determine information (including, but not limited to, the gene or amino acid sequence) or characteristics regarding the Amgen Cell Line or such media, other than as expressly required to manufacture the Product; (ii) clone, express, or otherwise produce any products or materials (including, without limitation, any progeny or derivatives thereof) from the Amgen Cell Line, other than as expressly permitted under this Agreement; (iii) notwithstanding anything to the contrary in Section 9.4.1 (Right to Publish), publish or otherwise publicly disclose the Amgen Cell Line; or (iv) permit any non-controlled security access to the Amgen Cell Line or otherwise transfer or provide any of the Amgen Cell Line to a Third Party or any of its Affiliates, other than as expressly required to manufacture the Product.

(d) Upon a termination or expiration of the Permitted CMO Agreement (including as a result of the appointment, with prior written notice to Amgen, by Company of a replacement Permitted CMO), the Permitted CMO shall promptly return any remaining Amgen Cell Lines and related Licensed Know-How and Licensed Materials to Amgen. If, at any time, Company desires to add a new Third Party commercial manufacturer to the Permitted CMO Schedule, it shall notify Amgen in writing (a "**Permitted CMO Request**"), and Amgen shall have the right, for [*] after receipt of such Permitted CMO Request, to inspect, at a reasonable time and on a reasonable basis (at Amgen's cost), such manufacturer's facilities to confirm its ability to fully comply with the restrictive provisions set forth in this Section 2.4.2. If Amgen rejects a Permitted CMO Request pursuant to the foregoing, it will notify Company of the reason(s) for such rejection and provide reasonable detail regarding the actions Company (or the applicable Third Party commercial manufacturer) may take to remedy such reasons for rejection. If Amgen does not reject a Permitted CMO Request within the [*] notice period, the applicable Third Party shall be deemed a Permitted CMO.

(e) Notwithstanding anything to the contrary, if, outside the scope of this Agreement, Amgen allows any Third Party commercial manufacturer access to or use of the Amgen Cell Line, such Third Party shall be deemed a Permitted CMO.

2.4.3 Company acknowledges that any materials transferred by Amgen to Company (or the Permitted CMO) under this Agreement are experimental in nature and may have unknown characteristics and therefore agrees to use prudence and reasonable care in the use, handling, storage, transportation and disposition and containment of any such materials. Accordingly, no such materials, other than the Product Lots, shall be used in any human application, including any clinical trial.

Section 2.5 Intentionally omitted.

Section 2.6 No Other Rights. Each Party acknowledges that the rights and licenses granted under this Article 2 (License Grant) and elsewhere in this Agreement are limited to the scope expressly granted. Accordingly, except for the rights expressly granted under this Agreement, no right, title, or interest of any nature whatsoever is granted whether by implication, estoppel, reliance, or otherwise, by either Party to the other Party. All rights that are not specifically granted herein are reserved.

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Section 2.7 Limited Exploitation Rights. Without limiting the provisions of Section 2.6 (No Other Rights), Company agrees (on behalf of itself and its Affiliates), and shall cause each of its Sublicensees to agree as a condition to the grant of a Sublicense, not to Exploit any Licensed Know-How or Licensed Patents in connection with any products or services other than the Product.

ARTICLE 3 FEES, ROYALTIES AND PAYMENTS

Section 3.1 Upfront Payment. Company shall pay to Amgen, within [*] after the Closing Date, a non-refundable, non-creditable upfront payment of Two Hundred Fifty Thousand Dollars ($250,000).

Section 3.2 Inventory Payment. Company shall pay to Amgen, within [*] after receipt of the two (2) Product Lots delivered pursuant to Section 5.4 (Product Supply), each of which shall meet the quality requirements for such Product Lots set forth in the Quality Agreement, a non-refundable, non-creditable inventory payment of [*] (it being agreed and understood by the Parties that no such inventory payment shall be due and payable if Amgen fails to deliver both Product Lots as contemplated hereunder).

Section 3.3 Milestone Payments. Company shall pay to Amgen certain milestone payments ("**Milestone Payments**") following the first occurrence of certain milestone events, as set forth in Section 1 of the Milestones and Royalties Schedule (the "**Milestone Events**"). Company shall pay to Amgen the applicable Milestone Payment within [*] after the occurrence of the applicable Milestone Event. Each Milestone Payment is payable only once; except as set forth in Section 1 of the Milestones and Royalties Schedule, no Milestone Payment shall be payable for subsequent or repeated achievements of such Milestone Event. Each of the Milestone Payments shall be non-refundable and non-creditable. In the event that a Milestone Event relating to clinical development for the Product is achieved and payment that was due and payable with respect to the previous Milestone Event(s) for the Product has not been made by Company, then Company shall promptly pay Amgen such unpaid payment with respect to such previous Milestone Event(s) for the Product.

Section 3.4 Royalties. Company shall pay to Amgen on a calendar quarterly basis the tiered royalties set forth in Section 2 of the Milestones and Royalties Schedule on annual Net Sales of the Product sold by a Selling Party during the applicable Royalty Term, subject to the applicable deductions set forth in the Milestones and Royalties Schedule. Any such payment obligations accrued during a calendar quarter shall be made within [*] after the end of each such calendar quarter. Company's obligation to pay royalties with respect to the Product in a particular country shall commence upon the First Commercial Sale of the Product in such country and shall expire on a country-by-country basis on the later of (a) the date on which the Exploitation of the Product is no longer Covered by a Valid Claim of a Licensed Patent in such country, (b) the loss of Regulatory Exclusivity for the Product in such country, and (c) the tenth (10th) anniversary of the First Commercial Sale of the Product in such country (the "**Royalty Term**").

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Section 3.5 Product Sublicensing Income. Without limiting Amgen's rights under Section 2.3 (Right of Notification) or the payment obligations set forth in Section 3.3 (Milestone Payments) and 3.4 (Royalties), in the event that, prior to [*], Company or any of its Affiliates enters into an Out-License with a Third Party under the Product Technology for development and/or commercialization of the Product, then Company shall promptly notify Amgen in writing. Within [*] after the end of a calendar month during which Company receives any Out-License Fees (as defined below), Company shall pay to Amgen [*] of (a) any amounts paid to Company or its Affiliates by such Third Party pursuant to such Out-License, whether in the form of cash, up-front fees (including any fees paid in installments), milestone payments or otherwise and (b) the fair market value of any other consideration remitted to Company by such Third Party under such Out-License ((a) and (b) collectively, "**Out-License Fees**") received by Company in such calendar month, but excluding, in each case, (i) payments made to fund research and/or development work on, manufacturing of or royalties on Net Sales of the Product and (ii) the purchase of Company's or its Affiliates' stock (but solely to the extent that such payment is at a price equal to or less than one hundred percent (100%) of the fair market value of such stock at the date of purchase, it being understood that, for so long as [*], a stock price [*] (or, if [*]) shall be deemed to be the fair market price of such stock). To the extent such Out-License extends to technology other than the Product Technology or products other than the Product, such Out-License Fees shall be allocated between the Product Technology and the Product, on the one hand, and such other technology or products, on the other hand, on a prorated basis, based on the relative fair market values of the out-licensed technology and products. Company shall not attempt to reduce compensation rightly due to Amgen under this Section 3.5 (Product Sublicensing Income) by shifting compensation otherwise payable to Company from a Third Party with respect to the Product to another product or service for which no amounts are payable under this Section 3.5 (Product Sublicensing Income). For avoidance of doubt, any amounts paid or payable to Company in connection with the sale of all or substantially all of Company's assets or business shall not be considered "Out-License Fees." Notwithstanding anything else to the contrary hereunder, Company shall deduct from any amounts due under this Section 3.5 (Product Sublicensing Income) [*] of the payments paid to Amgen pursuant to Section 3.1 (Upfront Payment) and Section 3.2 (Inventory Payment).

Section 3.6 Method of Payment; Royalty Reporting. Unless otherwise agreed by the Parties, all payments due from Company to Amgen under this Agreement shall be paid in U.S. Dollars by wire transfer or electronic funds transfer of immediately available funds to an account designated by Amgen. After the First Commercial Sale of the Product and until expiration of the Royalty Term, Company shall prepare and deliver to Amgen royalty reports of the sale of the Product by the Selling Parties for each calendar quarter within [*] after the end of each such calendar quarter specifying in the aggregate and on a country-by-country basis: (a) total gross amounts for Product sold or otherwise disposed of by a Selling Party; (b) amounts deducted by category in accordance with the definition of "Net Sales" in Article I from gross amounts to calculate Net Sales; (c) Net Sales; and (d) royalties payable.

Section 3.7 Currency Conversion. In the case of sales outside the United States, payments received by Company shall be expressed in the U.S. Dollar equivalent calculated on a quarterly basis in the currency of the country of sale and converted to their U.S. Dollar equivalent using the average rate of exchange over the applicable calendar quarter to which the sales relate, in

accordance with (a) the then-current standard methods of Company or the applicable Sublicensee, to the extent reasonable and consistently applied and (b) GAAP; *provided* that if, at such time, Company does not use a rate for converting into U.S. Dollar equivalents that is maintained in accordance with GAAP, then Company shall use a rate of exchange which corresponds to the rate of exchange for such currency reported in *The Wall Street Journal*, Internet U.S. Edition at www.wsj.com, as of the last day of the applicable reporting period (or, if unavailable on such date, the first date thereafter on which such rate is available). Company shall inform Amgen as to the specific exchange rate translation methodology used for a particular country or countries.

Section 3.8 Late Payments. In the event that any payment due hereunder that is not the subject of a good faith dispute is not made when due, the payment shall accrue interest beginning on the day following the due date thereof, calculated at the annual rate of the sum of (a) [*] plus (b) the prime interest rate quoted by The Wall Street Journal, Internet U.S. Edition at www.wsj.com on the date said payment is due, the interest being compounded on the last day of each calendar quarter; *provided* that in no event shall said annual interest rate exceed the maximum rate permitted by Law. Each such payment when made shall be accompanied by all interest so accrued. Said interest and the payment and acceptance thereof shall not negate or waive the right of any Party to seek any other remedy, legal or equitable, to which it may be entitled because of the delinquency of any payment including, but not limited to termination of this Agreement as set forth in Article 10 (Term and Termination).

Section 3.9 Records and Audits. Company shall keep complete and accurate records relating to the calculations of Net Sales generated in the then current calendar year and payments required under this Agreement, and during the preceding [*]. Amgen shall have the right, once annually at its own expense, to have a nationally recognized, independent, certified public accounting firm, selected by it and subject to Company's prior written acceptance (which shall not be unreasonably withheld), review any such records of Company and its Affiliates and Sublicensees (the "**Audited Party**") in the location(s) where such records are maintained by the Audited Party upon reasonable written notice (which shall be no less than [*] prior written notice) and during regular business hours and under obligations of strict confidence, for the sole purpose of verifying the basis and accuracy of payments made under Sections 3.4 (Royalties) and 3,5 (Product Sublicensing Income) within the [*] period preceding the date of the request for review. No calendar year shall be subject to audit under this Section more than once. Company shall receive a copy of each such report concurrently with receipt by Amgen. Should such inspection lead to the discovery of a discrepancy to Amgen's detriment, Company shall, within [*] after receipt of such report from the accounting firm, pay any undisputed amount of the discrepancy together with interest at the rate set forth in Section 3.8 (Late Payments). Amgen shall pay the full cost of the review unless the underpayment of amounts due to Amgen is greater than [*] of the amount due for the entire period being examined, in which case Company shall pay the cost charged by such accounting firm for such review. Should the audit lead to the discovery of a discrepancy to Company's detriment, Company may credit the amount of the discrepancy, without interest, against future payments payable to Amgen under this Agreement, and if there are no such payments payable, then Amgen shall pay to Company the amount of the discrepancy, without interest, within [*] after Amgen's receipt of the report,

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Section 3.10 Taxes.

3.10.1 Sales Tax. Company is responsible for the payment of any state or local, sales or use, or similar fees or taxes arising as a result of the transfer of Licensed Materials by Amgen to Company pursuant to Section 2.4 (Transfer of Licensed Know-How and Licensed Materials) or the Product Lots pursuant to the Supply Agreement, and Company shall remit such fees or taxes to Amgen, as the collection agent, upon invoice.

3.10.2 Withholding. In the event that any Law requires Company to withhold taxes with respect to any payment to be made by Company pursuant to this Agreement, Company shall notify Amgen of such withholding requirement prior to making the payment to Amgen and provide such assistance to Amgen, including the provision of such documentation as may be required by a tax authority, as may be reasonably necessary in Amgen's efforts to claim an exemption from or reduction of such taxes. Company shall, in accordance with such Law, withhold taxes from the amount due, remit such taxes to the appropriate tax authority, and furnish Amgen with proof of payment of such taxes within [*] following the payment. If taxes are paid to a tax authority, Company shall provide reasonable assistance to Amgen to obtain a refund of taxes withheld, or obtain a credit with respect to taxes paid.

ARTICLE 4 PATENT PROSECUTION, MAINTENANCE AND INFRINGEMENT

Section 4.1 Prosecution and Maintenance.

4.1.1 Company shall have the first right to file, prosecute and maintain all Patent Rights specified under Licensed Patents (other than in Japan), in each case at Company's sole expense using outside counsel reasonably acceptable to Amgen. Company shall use Commercially Reasonable Efforts to prepare, file, prosecute, defend and maintain all such Patent Rights; *provided* that Company does not represent or warrant that any patent will issue or be granted based on patent applications contained in the Licensed Patents. Amgen shall reasonably cooperate with Company's requests for data, affidavits, and other information and assistance to support prosecution and maintenance of such Patent Rights; *provided* that Company shall reimburse Amgen for its reasonable documented out-of-pocket expenses with respect to such cooperation. Company shall, at least [*] prior to submission or within [*] of receipt, forward to Amgen copies of any significant office actions, communications, and correspondence relating to the Licensed Patents. Amgen shall have the right to comment on and to discuss such prosecution and maintenance activities with Company, and Company shall consider the same in good faith.

4.1.2 As between the Parties, Amgen (or its designee) shall have the sole right to file, prosecute and maintain the Licensed Patents in Japan. Company shall not have any obligation to file, prosecute or maintain any Licensed Patents in Japan.

Section 4.2 Amgen Step-In Right. Notwithstanding the foregoing, if Company declines to file, prosecute or maintain any Patent Rights described in Section 4.1.1, elects to allow any Patent Rights described in Section 4.1.1 to lapse in any country, or elects to abandon any such Patent Rights (in each case solely to the extent contained in the Licensed Patents) before all appeals within the respective patent office have been exhausted (each, an "**Abandoned Patent Right**"), then:

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(a) Company shall provide Amgen with reasonable notice of such decision so as to permit Amgen to decide whether to file, prosecute or maintain such Abandoned Patent Rights and to take any necessary action (which notice shall, in any event, be given no later than [*] prior to the next deadline for any action that may be taken with respect to such Abandoned Patent Right with the U.S. Patent & Trademark Office or any foreign patent office).

(b) Amgen, at Amgen's expense, may assume control of the filing, prosecution and/or maintenance of such Abandoned Patent Rights. The continued filing, prosecution or maintenance of such Abandoned Patent Rights shall be at Amgen's sole discretion.

(c) Amgen shall have the right to transfer the responsibility for such filing, prosecution and maintenance of such Abandoned Patent Rights to patent counsel (outside or internal) selected by Amgen,

(d) Company shall, at Amgen's reasonable request and expense, assist and cooperate in the filing, prosecution and maintenance of such Abandoned Patent Rights.

(e) In the event a patent issues with respect to any such Abandoned Patent Rights, Amgen shall provide reasonable notice to Company thereof and such Abandoned Patent Right shall be excluded from the license granted by Amgen to Company under Section 2.1 (Grant), unless Company (i) reimburses Amgen for its internal and external costs and expenses related to the prosecution and maintenance of such Abandoned Patent Right within [*] of issuance of any such patent and (ii) assumes, in writing, the responsibility for the continued prosecution and maintenance of such Patent Rights in accordance with the provisions of Section 4.1 (Prosecution and Maintenance).

Section 4.3 Enforcement.

4.3.1 Company Enforcement. Each Party shall notify the other promptly in writing when any Infringement by a Third Party is uncovered or reasonably suspected. Company shall have the first right to enforce any patent within the Licensed Patents (other than in Japan) against any Infringement or alleged Infringement thereof, and in each case shall at all times keep Amgen informed as to the status thereof. Company may, at its own expense, institute suit against any such infringer or alleged infringer and control, defend and settle such suit in a manner consistent with the terms and provisions hereof, and recover any damages, awards or settlements resulting therefrom, subject to Section 4.5 (Recovery). Amgen shall reasonably cooperate in any such litigation at Company's expense; where necessary, Amgen shall join in, or be named as a necessary party to, such litigation. Company shall not enter into any settlement of any claim described in this Section 4.3.1 (Company Enforcement) that admits to the invalidity or unenforceability of the Licensed Patents, incurs any financial liability on the part of Amgen, requires an admission of liability, wrongdoing or fault on the part of Amgen, without Amgen's prior written consent, in each case, such consent not to be unreasonably withheld.

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4.3.2 Amgen Enforcement.

(a) If Company elects not to take good faith steps to enforce any patent within the Licensed Patents described in Section4.3.1 (Company Enforcement) with respect to an Infringement (or otherwise take good faith steps to resolve such Infringement) in a particular country within [*] of receiving notice that an Infringement exists in such country (provided the foregoing shall not limit Amgen's right to pursue equitable relief at any time in any court of competent jurisdiction in order to protect its rights in the Licensed Patents), then it shall so notify Amgen in writing, and upon receiving such notice, then Amgen may, in its sole judgment and at its own expense, take steps to enforce any such patent, including instituting suit against any such infringer or alleged infringer, and control, defend and settle such suit in a manner consistent with the terms and provisions hereof, and recover any damages, awards or settlements resulting therefrom, subject to Section 4.5 (Recovery). Company shall reasonably cooperate in any such litigation at Amgen's expense; where necessary, Company shall join in, or be named as a necessary party to, such litigation. Amgen shall not enter into any settlement of any claim described in this Section 4.3.2(a) that admits to the invalidity or unenforceability of the Licensed Patents, incurs any financial liability on the part of Company or requires an admission of liability, wrongdoing or fault on the part of Company without Company's prior written consent, in each case, such consent not to be unreasonably withheld.

(b) As between the Parties, Amgen (or its designee) shall have the sole right to enforce any patent within the Licensed Patents against any Infringement or alleged Infringement thereof asserted and occurring solely in Japan. Company shall reasonably cooperate in any such litigation at Amgen's (or its designee's) expense, including, where necessary, Company shall join in, or be named as a necessary party to, such litigation. Except for the cooperation obligations expressly set forth in this Section 4.3.2(b), Company shall not have any obligation to enforce any patent within the Licensed Patents in Japan. With respect to an Infringement or alleged Infringement of the Licensed Patents by a party that occurs both inside and outside the Territory, the Parties will meet and confer to mutually agree on a plan for enforcement (including how expenses will be shared), and each Party will reasonably cooperate in any such litigation.

4.3.3 Progress Reports; Participation. The Party initiating or defending any enforcement action described in this Section 4.3 (Enforcement) (the "**Enforcing Party**") shall keep the other Party reasonably informed of the progress of any such enforcement action, and such other Party shall have the individual right to participate with counsel of its own choice at its own expense. The selection of such counsel will be subject to the Enforcing Party's approval (which shall not be unreasonably withheld).

Section 4.4 Defense of Third Party Claims.

4.4.1 If either (a) Product Exploited by or under authority of Company becomes the subject of a Third Party's claim or assertion of Infringement of a patent relating to the manufacture, use, sale, offer for sale or importation of the Product in the Field in the Territory, or (b) a declaratory judgment action is brought naming either Party as a defendant and alleging invalidity or unenforceability of any of the Licensed Patents (other than in Japan), the Party first having notice of the claim or assertion shall promptly notify the other Party, and the Parties shall

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promptly confer to consider the claim or assertion and the appropriate course of action. Unless the Parties otherwise agree in writing, each Party shall have the right to defend itself against a suit that names it as a defendant (the "**Defending Party**"). Neither Party shall enter into any settlement of any claim described in this Section 4.4.1 that admits to the invalidity or unenforceability of the Licensed Patents, incurs any financial liability on the part of the other Party, requires an admission of liability, wrongdoing or fault on the part of the other Party or, in the case that Company is the settling Party, in Amgen's reasonable determination, conflicts with Amgen's obligations under the Japan Agreement, without such other Party's prior written consent, in each case, such consent not to be unreasonably withheld. In any event, the other Party shall reasonably assist the Defending Party and cooperate in any such litigation at the Defending Party's request and expense.

4.4.2 If either (a) the Product becomes the subject of a Third Party's claim or assertion of Infringement of a patent relating to the manufacture, use, sale, offer for sale or importation of the Product in Japan or (b) a declaratory judgment action is brought naming Amgen or Japan Licensee as a defendant and alleging invalidity or unenforceability of any of the Licensed Patents in Japan, Company shall reasonably assist Amgen or Japan Licensee, as applicable, and cooperate in any such litigation at Amgen's or Japan Licensee's, as applicable, request and expense.

Section 4.5 Recovery. Except as otherwise provided, the costs and expenses of the Party bringing suit under Section 4.3 (Enforcement) shall be borne by such Party, and any damages, settlements or other monetary awards recovered shall be shared as follows: (i) the amount of such recovery actually received by the Party controlling such action shall first be applied to the out-of-pocket costs of each Party in connection with such action; and then (ii) the remainder of the recovery shall be shared between the Parties as follows:

(a) If Company is the Enforcing Party, as if such recovery were Net Sales under this Agreement and Company shall pay to Amgen a portion of such Net Sales equal to the royalties calculated and payable with respect to the applicable Product under Section 3.4 (Royalties); and

(b) If Amgen is the Enforcing Party, [*] to Amgen, and [*] to Company.

Section 4.6 Patent Term Extensions and Filings for Regulatory Exclusivity Periods. Company shall advise Amgen in advance when it is considering any patent term extension or supplementary protection certificates or their equivalents for the Licensed Patents. Upon Amgen's request, Company shall provide reasonable cooperation and assistance to Amgen (and/or its licensees) with respect to the preparation and filing of any patent term extension or supplementary protection certificates or their equivalents for the Product in Japan, With respect to any patent listings required for any Regulatory Exclusivity for the Product in the Territory, the Parties shall mutually agree on which Licensed Patents to list.

Section 4.7 Patent Marking. Company shall mark, and shall cause all other Selling Parties to mark, Product with all Licensed Patents in accordance with applicable Law, which marking obligation shall continue for as long as (and only for as long as) required under applicable Law.

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ARTICLE 5 OBLIGATIONS OF THE PARTIES

Section 5.1 Responsibility. Following the Closing Date and at all times during the Term (except as expressly stated otherwise herein), Company shall be responsible for, and shall bear all costs associated with, the research, development and commercialization of the Product in the Territory, including regulatory, pharmacovigilance, manufacturing, distribution, marketing and sales activities. Subject to Company's obligations hereunder, all decisions concerning the development, marketing and sales of Product in the Territory, including the clinical and regulatory strategy, design, sale, price and promotion of Product covered under this Agreement, shall be within the sole discretion of Company,

Section 5.2 Diligence. Company shall (directly and/or through one or more Affiliates and/or Sublicensees or subcontractors) use Commercially Reasonable Efforts to develop and commercialize the Product in the Territory, [*]. The foregoing shall include use of Commercially Reasonable Efforts (directly and/or through one or more Affiliates and/or Sublicensees) with respect to [*]. In addition to the obligations of Company to use Commercially Reasonably Efforts, if Company, its Affiliates and/or their respective Sublicensees have not [*], Company shall promptly (but in no event later than [*] after each such applicable date) notify Amgen in writing of such failure to achieve such event (a "**Specified Diligence Failure**") in a timely manner (the "**Diligence Notice**"); *provided* that, (i) if [*] requires [*], then the deadline above shall be equitably extended to account for the [*] to comply with such deadline, and (ii) if Company either (A) fails to timely [*] despite its good faith efforts to do so or (B) has a Specified Diligence Failure as a result of [*] as required under [*], then the deadline shall be equitably extended to account for [*] to comply with such deadline (*provided*, in the case of a failure under clause (ii)(A), such equitable extension shall [*]). Company will notify Amgen if an equitable extension pursuant to clause (ii) above is necessary, and will provide Amgen with a good faith, non-binding estimate of the expected duration of such extension. Notwithstanding anything to the contrary, Amgen shall have the right to terminate this Agreement for a Specified Diligence Failure by providing [*] written notice to Company, *provided* such Specific Diligence Failure is not cured during such notice period. Company shall notify Amgen immediately upon obtaining Marketing Approval of the Product in each country.

Section 5.3 Reports. On January 15 and July 15 of each year (or, on a quarterly basis if required by the Japan Licensee under the Japan Agreement), Company shall submit to Amgen a report summarizing, in reasonable detail, activities related to the Exploitation of the Product that Company or any of its Affiliates has performed, or caused to be performed, during the preceding six (6)-month period, and future activities related to the Exploitation of Product it then-currently expects to initiate during the following six (6)-month period.

Section 5.4 Product Supply.

5.4.1 On the Closing Date, the Parties shall enter into (a) the Supply Agreement, pursuant to which Amgen shall provide to Company two (2) lots of the Product drug product (each, a "**Product Lot**") (*provided* that the second Product Lot shall only be deliverable by Amgen to the extent it meets all related quality requirements under the Supply Agreement), and (b) the Quality Agreement, with respect to such supply of the Product Lots. Except for the

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Licensed Materials listed on the Licensed Materials Schedule and such Product Lots delivered to Company, Company shall be responsible for, and shall bear the cost of, obtaining (whether by manufacturing or causing to be manufactured) research, clinical and commercial supplies of the Product. Notwithstanding anything to the contrary hereunder, as promptly as practicable after the Closing Date, Amgen will transfer the IND for the Product in the United States and Canada to Company, at Amgen's sole cost and expense.

5.4.2 Without limiting the foregoing, Company, itself or through a Permitted CMO, shall supply to Japan Licensee clinical and commercial supplies of the Product for use, importation or sale in Japan, pursuant to the terms attached as the Clinical Supply Schedule to the Japan Agreement (with respect to clinical supply) or a supply agreement separately entered into between Company and Japan Licensee (with respect to commercial supply, but solely to the extent described in the third or fourth sentences of Section 7.3 of the Japan Agreement). Notwithstanding anything in Section 2.1 (Grant) to the contrary, Amgen hereby grants to Company all necessary rights and licenses to allow Company to comply with Company's obligations under this Section 5.4.2.

5.4.3 Company, at the request of Amgen, shall enter into good faith negotiations with Japan Licensee for the purpose of establishing a supply agreement, quality agreement and safety agreement with respect to the Product. Under such safety agreement, Company shall (a) designate a safety liaison for communicating with Japan Licensee regarding adverse events with respect to the Product and (b) coordinate with Japan Licensee regarding any issues that may give rise to a recall.

Section 5.5 Pre-Existing Agreements. Promptly after the Closing Date, Amgen shall assign the Pre-Existing Agreements to Company (or, in the case of [*], shall [*]), to the extent it has the right under such agreement(s) to do so (and will use commercially reasonable efforts to obtain any required consents). Until the effective date of such assignment or sublicense, as applicable, (a) Company agrees to perform, or assist Amgen in performing, Amgen's obligations (and, in the case of [*], Company agrees to [*]) under such agreement, and (b) Amgen agrees to use reasonable efforts to provide Company with any rights Amgen receives under such agreement and sublicense, as applicable.

Section 5.6 Company Location. Within sixty (60) days following the Closing Date, Company, Nina Biosciences, Inc. or Santa Maria Biosciences, Inc. (either alone or together) shall establish facilities in or around Thousand Oaks, California (the "**Thousand Oaks Facilities**"). At least one of Company, Nina Biosciences, Inc., or Santa Maria Biosciences, Inc. shall be obligated to maintain such Thousand Oaks Facilities until the earliest of (a) two (2) years following the date of such establishment, (b) the end of the Term or (c) a Sale Transaction of Company. Promptly after the Closing Date, Amgen and Company shall work together to mutually identify appropriate personnel candidates to develop and commercialize the Product in the Territory. Company shall use commercially reasonable efforts to hire and retain such candidates.

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ARTICLE 6 EX-TERRITORY ACTIVITIES

Section 6.1 Rights to the Product in Jam. Except as expressly set forth herein, the Parties acknowledge that no rights are granted hereunder to Company with respect to the Product in Japan, and that Company will have no authority or obligations with respect to the research, development, manufacture or commercialization of the Product in Japan. As between the Parties, Amgen or its licensees will have the sole right to research, develop, manufacture and commercialize the Product in Japan. Company hereby acknowledges that Amgen has previously licensed rights for the Product in Japan to Japan Licensee under the Japan Agreement. Company acknowledges that it has received and reviewed a redacted copy of the Japan Agreement.

Section 6.2 Obligations under Japan Agreement.

(a) Without limitation of Company's obligations under Section 5.4 (Product Supply), Company agrees to perform (or assist Amgen in performing) Amgen's obligations to Japan Licensee under the Japan Agreement, solely to the extent [*]; *provided* that (i) Company shall have no obligation to perform any activities which it is not permitted to perform hereunder (or for which Amgen has not granted Company the requisite rights or authority to perform), (ii) Company shall have no obligation or right to [*] under Article [*] of the Japan Agreement except to the extent [*], and (iii) in the event [*] and [*], [*]. Company shall [*] for the purpose of [*] between Company and Japan Licensee as necessary to fulfill Company's obligations under this Section 6.2, including [*] with respect to [*] set forth in [*] of the Japan Agreement.

(b) Amgen agrees to provide Company with any relevant rights Amgen receives from Japan Licensee under the Japan Agreement (other than [*], including under [*] (but only to the extent [*], it being understood that [*]) of the Japan Agreement), to the extent [*], and Company agrees to assist Amgen in exercising such rights; *provided* that (i) Amgen [*] with respect to [*], including pursuant to [*]; (ii) Amgen [*] under [*] (provided that this reference to [*] shall not be deemed to [*] pursuant to Section [*] hereunder) of the Japan Agreement; (iii) the Parties shall cooperate with respect to the exercise of any right of Amgen (A) under Section [*] of the Japan Agreement or (B) to [*] under Section [*] of the Japan Agreement and the related rights under Sections [*] of the Japan Agreement (which cooperation shall include Amgen (1) [*] with respect to such exercise and (2) upon Company's reasonable request, [*] with respect to the [*] Section [*] of the Japan Agreement in accordance with the terms thereof); and (iv) in the event [*], Amgen shall [*] under Sections [*] of the Japan Agreement.

Section 6.3 License Grant and Right of Reference. To the extent Amgen is required under the Japan Agreement to [*], Company hereby grants Amgen a license [*] as necessary for Amgen to comply with its obligations under the Japan Agreement. To the extent Amgen is required under the Japan Agreement to [*], Company hereby grants to Amgen [*] right of access and reference [*], as necessary for Amgen to comply with its obligations under the Japan Agreement.

Section 6.4 Product Data; Regulatory. Without limiting Section 6.2 (Obligations under Japan Agreement), promptly upon reasonable request by Amgen from time to time, solely for the purpose of and to the extent necessary for Amgen to comply with its obligations under the Japan

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Agreement, Company shall provide (a) to Amgen and Japan Licensee [*], copies of all the Product Data then in Company's Control, for use in Japan, in reasonably usable electronic form and, if reasonably necessary or useful in connection with Japan Licensee's Exploitation of the Product in Japan, original hardcopies or duplicate copies thereof; (b) to Amgen and its designee copies of all Regulatory Filings and Marketing Approvals (and all underlying data) with respect to the Product held by or on behalf of Company; (c) to Amgen and its designee (or the relevant Governmental Authority, if such provision will satisfy such Governmental Authority's requirements) [*] and (d) reasonable cooperation to Amgen or its designee with respect to [*]. [*] shall be responsible for [*] and [*]. Notwithstanding anything to the contrary, Company shall only be obligated to provide (a)-(d) above [*] if such obligations [*]. Amgen shall [*] pursuant to fulfilling (a)-(d) above.

Section 6.5 Amendment of Japan Agreement. Any amendment to the Japan Agreement that alters Company's obligations herein shall be subject to Company's prior approval as follows: (i) prior to execution of any such amendment, Amgen shall provide Company with a copy of the proposed amendment and (ii) Company shall have [*] from receipt thereof to approve the proposed amendment, which approval shall not be unreasonably withheld or delayed.

ARTICLE 7 REPRESENTATIONS AND COVENANTS

Section 7.1 Mutual Warranties. Each of Amgen and Company represents and warrants that:

(a) it is duly organized and validly existing under the Law of the jurisdiction of its incorporation, and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof;

(b) it is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder, and the individual executing this Agreement on its behalf has been duly authorized to do so by all requisite corporate action; and

(c) this Agreement is legally binding upon it and enforceable in accordance with its terms. The execution, delivery and performance of this Agreement by it 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 applicable Law.

Section 7.2 Additional Amgen Warranties. Amgen warrants to Company that:

(a) As of the Signing Date, Amgen Controls the Licensed Patents and the Licensed Know-How listed on the Licensed Know-How Schedule, and is entitled to grant the licenses specified herein. Amgen has not caused any Patent Right included in the Licensed Patents to be subject to any liens or encumbrances and Amgen has not granted to any Third Party any rights or licenses under such Patent Rights or Licensed Know-How that would conflict with the licenses granted to Company hereunder. None of the Licensed Patents are in-licensed by Amgen;

(b) As of the Signing Date, Amgen has no knowledge of any claim or litigation that has been brought or threatened in writing by any Third Party alleging that (i) the Licensed Patents are invalid or unenforceable or (ii) the manufacture, sale, offer for sale or importation of the Product in the Field in the Territory infringes or misappropriates any patents or other intellectual property rights of any Third Party;

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(c) As of the Signing Date, no patent application or registration within the Licensed Patents is the subject of any pending interference, opposition, cancellation or patent protest pursuant to 37 C.F.R. § 1.291;

(d) Amgen has made available to Company true and correct copies of the following: (i) all material Regulatory Filings for the Territory; (ii) all material correspondence with Governmental Authorities with respect to such Regulatory Filings; (iii) all minutes of any material meetings, telephone conferences or discussions with Governmental Authorities with respect to such Regulatory Filings; and (iv) all final clinical trial reports, in each case with respect to the Product and to the extent in existence as of the Signing Date;

(e) Until ownership of any Regulatory Filing is transferred to Company as set forth herein, Amgen is the owner of each such Regulatory Filing in the Field in the Territory;

(f) All the Product Lots provided to Company by Amgen pursuant to the Supply Agreement, as of the date each such Product Lot is provided to Company as set forth herein, have been manufactured, packaged, stored and labeled (as applicable) in accordance with cGMP and the specifications set forth in the Specifications Schedule;

(g) As of the Signing Date, the copy of the Japan Agreement and each Pre-Existing Agreement disclosed to Company prior to the Signing Date is, but for the redactions contained therein, a true and complete copy. Amgen further represents and warrants that Company will not be bound by any provision that is redacted from such copies of the Japan Agreement and/or any Pre-Existing Agreement;

(h) as of the Signing Date, [*], and (ii) [*]; and

(i) As of the Signing Date, Amgen has no knowledge that the manufacture of the Product using the Amgen Cell Line provided under this Agreement would infringe any patents of any Third Party.

Section 7.3 Disclaimer. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS ARTICLE 7 (REPRESENTATIONS), NEITHER PARTY MAKES ANY REPRESENTATIONS OR EXTENDS ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, QUALITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR VALIDITY OF PATENT CLAIMS. NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS A REPRESENTATION MADE OR WARRANTY GIVEN BY EITHER PARTY THAT EITHER PARTY WILL BE SUCCESSFUL IN OBTAINING ANY PATENT RIGHTS, OR THAT ANY PATENTS WILL ISSUE BASED ON A PENDING APPLICATION. WITHOUT LIMITING THE RESPECTIVE RIGHTS AND OBLIGATIONS OF THE PARTIES EXPRESSLY SET FORTH HEREIN, EACH PARTY SPECIFICALLY DISCLAIMS ANY GUARANTEE THAT THE PRODUCT WILL BE SUCCESSFUL, IN WHOLE OR IN PART.

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Section 7.4 Company Covenants. Company covenants to Amgen that:

(a) it will conduct, and will cause its Affiliates and contractors to conduct, all preclinical and clinical studies for Product and manufacturing of Product, in accordance with (i) all U.S. Laws and the Laws of the country in which such clinical studies are conducted, (ii) the known or published standards of the FDA and the Regulatory Authority in such country, and (iii) the scientific standards applicable to the conduct of such studies and activities in the United States and in such country including current good laboratory practice, current good clinical practice and current good manufacturing practice. Neither Company, nor any officer, employee or agent of Company, will make an untrue statement of a material fact to any Regulatory Authority with respect to Product (whether in any submission to such Regulatory Authority or otherwise), and none of the foregoing will knowingly fail to disclose a material fact required to be disclosed to any Regulatory Authority with respect to Product;

(b) it will, and will cause its Affiliates and contractors to, comply with all Law with respect to the commercialization of Product;

(c) it will not knowingly employ any personnel or knowingly use a contractor or consultant that has been debarred by the FDA (or subject to a similar sanction of any other Regulatory Authority), or that is subject of an FDA debarment investigation or proceeding (or similar proceeding of any other Regulatory Authority); and

(d) it shall comply with all (i) U.S. Laws prohibiting the re-export, directly or indirectly, of certain controlled U.S.-origin items without a license to parties located in certain countries or appearing on certain U.S. Government lists of restricted parties; (ii) U.S. Laws prohibiting participation in non-U.S. boycotts that the United States does not support; and (iii) U.S. Laws prohibiting the sale of products to parties from any country subject to U.S. economic sanctions or who are identified on related U.S. Government lists of restricted parties.

ARTICLE 8 INDEMNIFICATION

Section 8.1 Indemnity.

8.1.1 By Amgen. Amgen agrees to defend Company and its (and its Affiliates') directors, officers, employees and agents (the "**Company Indemnified Parties**") at Amgen's cost and expense, and will indemnify and hold Company and the other Company Indemnified Parties harmless from and against any claims, losses, costs, damages, fees or expenses (including legal fees and expenses) (collectively, "**Losses**") to the extent resulting from any Third Party claim (including product liability claims) arising out of or otherwise relating to (a) the gross negligence or willful misconduct of Amgen, (b) the material breach of this Agreement or the representations and warranties made hereunder by Amgen, (c) the Exploitation of the Product by or on behalf of Amgen (or the Exploitation of the Product by Japan Licensee), or (d) the death or injury of a person caused by the failure of the Product Lots delivered to Company hereunder to be manufactured in compliance with cGMP or the specifications set forth on the Specifications Schedule; except, in each case, to the extent such Losses result from clause (a), (b), or (c) of Section 8.1.2 (By Company). In the event of any such claim against the Company Indemnified

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Parties by a Third Party, the foregoing indemnity obligations shall be conditioned upon (x) Company promptly notifying Amgen in writing of the claim, (y) Company granting Amgen sole management and control, at Amgen's sole expense, of the defense of the claim and/or its settlement (*provided* that Amgen shall not settle any such claim without the prior written consent of Company if such settlement does not include a complete release from liability or if such settlement would involve undertaking an obligation (including the payment of money by a Company Indemnified Party), would bind or impair a Company Indemnified Party, or includes any admission of wrongdoing or that any intellectual property or proprietary right of Company is invalid or unenforceable), and (z) at Amgen's expense, the Company Indemnified Parties cooperating with Amgen; *provided* that in the case of (x) and (z) any failure or delay in such notice or cooperation shall not excuse any obligations of Amgen except to the extent Amgen is actually prejudiced thereby, The Company Indemnified Parties may, at their option and expense, be represented in any such action or proceeding by counsel of their own choosing.

8.1.2 By Company. Company agrees to defend Amgen and its (and its Affiliates') directors, officers, employees and agents (the "**Amgen Indemnified Parties**") at Company's cost and expense, and will indemnify and hold Amgen and the other Amgen Indemnified Parties harmless from and against any Losses resulting from any Third Party claim (including product liability claims) to the extent arising out of or otherwise relating to (a) the gross negligence or willful misconduct of Company, its Affiliates, or their respective Sublicensees, (b) the material breach of this Agreement or the representations, warranties and covenants made hereunder by Company, or (c) the Exploitation of the Product by or on behalf of Company, its Affiliates, or their respective Sublicensees (including from product liability and intellectual property infringement claims); except, in each case, to the extent such Losses result from clause (a), (b), (c) or (d) of Section 8.1.1 (By Amgen), In the event of any such claim against the Amgen Indemnified Parties by a Third Party, the foregoing indemnity obligations shall be conditioned upon (x) Amgen promptly notifying Company in writing of the claim, (y) Amgen granting Company sole management and control, at Company's sole expense, of the defense of the claim and/or its settlement (*provided* that Company shall not settle any such claim without the prior written consent of Amgen if such settlement does not include a complete release from liability or if such settlement would involve undertaking an obligation (including the payment of money by an Amgen Indemnified Party), would bind or impair an Amgen Indemnified Party, or includes any admission of wrongdoing or that any intellectual property or proprietary right of Amgen is invalid or unenforceable) and (z) at Company's expense, the Amgen Indemnified Parties cooperating with Company; *provided* that in the case of (x) and (z) any failure or delay in such notice or cooperation shall not excuse any obligations of Company except to the extent Company is actually prejudiced thereby. The Amgen Indemnified Parties may, at their option and expense, be represented in any such action or proceeding by counsel of their own choosing.

Section 8.2 LIMITATION OF DAMAGES. IN NO EVENT SHALL EITHER PARTY BE LIABLE HEREUNDER TO THE OTHER PARTY FOR ANY PUNITIVE, RELIANCE, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOST REVENUE, LOST PROFITS, OR LOST SAVINGS) HOWEVER CAUSED AND UNDER ANY THEORY, EVEN IF IT HAS NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. THE LIMITATIONS SET FORTH IN THIS SECTION 8.2 (LIMITATION OF DAMAGES) SHALL NOT APPLY WITH RESPECT TO (A) ANY BREACH OF ARTICLE 9

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(CONFIDENTIALITY) OR (B) THE INTENTIONAL MISCONDUCT OF A PARTY. NOTHING IN THIS SECTION 8.2 (LIMITATION OF DAMAGES) IS INTENDED TO LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF A PARTY UNDER THIS ARTICLE 8 (INDEMNIFICATION) WITH RESPECT TO ANY DAMAGES PAID BY THE OTHER PARTY TO A THIRD PARTY IN CONNECTION WITH A THIRD-PARTY CLAIM.

Section 8.3 Insurance. At least [*] prior to [*], Company shall at its own expense procure and maintain during the Term (and for [*] thereafter) [*] insurance coverage adequate to cover its obligations hereunder and which is/are consistent with normal business practices of prudent pharmaceutical companies. Additionally, at least [*] prior to [*], Company shall at its own expense procure and maintain during the Term (and for [*] thereafter) [*] insurance coverage adequate to cover its obligations hereunder and which is consistent with normal business practices of prudent pharmaceutical companies. Each insurance policy required by and procured by Company under this Section 8.3 (Insurance) shall [*]. Such insurance shall not be construed to create a limit of Company's liability with respect to its indemnification obligations under this Article 8 (Indemnification). Company shall provide Amgen with a certificate of insurance or other evidence of such insurance, upon request. Company shall provide Amgen with written notice at least [*] prior to the cancellation, non-renewal or a material change of or in such insurance which materially adversely affects the rights of Amgen hereunder, and [*] prior written notice of cancellation for non-payment of premiums. Company's insurance hereunder shall be primary with respect to the obligations for which Company is liable hereunder.

ARTICLE 9 CONFIDENTIALITY

Section 9.1 Confidential Information.

9.1.1 Confidential Information. Each Party ("**Disclosing Party**") may disclose to the other Party ("**Receiving Party**"), and Receiving Party may acquire during the course and conduct of activities under this Agreement, certain proprietary or confidential information of Disclosing Party in connection with this Agreement. The term "**Confidential Information**" means (a) all Licensed Know-How, (b) all Licensed Materials, and (c) all ideas and information of any kind, whether in written, oral, graphical, machine-readable or other form, whether or not marked as confidential or proprietary, which are transferred, disclosed or made available by Disclosing Party or at the request of Receiving Party. During the Term, Amgen shall keep completely confidential all Licensed Know-How and Licensed Materials to the extent disclosure of such Confidential Information would negatively impact in any material way the Exploitation of the Product in the Territory by Company or its Affiliates or Sublicensees. For clarity, any modifications, improvements, enhancements, derivatives, or extracts of or related to the Licensed Know-How and Licensed Materials conceived or reduced to practice by or on behalf of Company, its Affiliates, or Sublicensees shall be considered Company's Confidential Information.

9.1.2 Restrictions. During the Term and for [*] thereafter, Receiving Party shall keep completely confidential all Disclosing Party's Confidential Information. Receiving Party shall not use Disclosing Party's Confidential Information except to the extent necessary to perform its

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obligations and exercise its rights under this Agreement [*]. Receiving Party has the right to disclose Disclosing Party's Confidential Information without Disclosing Party's prior written consent, to the extent and only to the extent reasonably necessary, to Receiving Party's Affiliates and their employees, subcontractors, consultants or agents who have a need to know such Confidential Information in order to perform its obligations and exercise its rights under this Agreement and who are required to comply with the restrictions on use and disclosure in this Section 9.1.2 (Restrictions). Receiving Party shall use diligent efforts to cause those entities and persons to comply with the restrictions on use and disclosure in this Section 9.1,2 (Restrictions). Receiving Party assumes responsibility for those entities and persons maintaining Disclosing Party's Confidential Information in confidence and using same only for the purposes described herein.

9.1.3 Exceptions. Receiving Party's obligation of nondisclosure and the limitations upon the right to use the Disclosing Party's Confidential Information shall not apply to the extent that Receiving Party can demonstrate that the Disclosing Party's Confidential Information: (a) was known to Receiving Party or any of its Affiliates prior to the time of disclosure, as evidenced by contemporaneous written records; (b) is or becomes public knowledge through no fault or omission of Receiving Party or any of its Affiliates; (c) is obtained by Receiving Party or any of its Affiliates from a Third Party under no obligation of confidentiality to Disclosing Party; or (d) has been independently developed by employees, subcontractors, consultants or agents of Receiving Party or any of its Affiliates without the aid, application or use of Disclosing Party's Confidential Information, as evidenced by contemporaneous written records.

9.1.4 Permitted Disclosures. Receiving Party may disclose Disclosing Party's Confidential Information to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

(a) in order to comply with applicable law (including any securities law or regulation or the rules of a securities exchange) or with a legal or administrative proceeding;

(b) in connection with prosecuting or defending litigation, Marketing Approvals and other regulatory filings and communications, and filing, prosecuting and enforcing Patents in connection with Receiving Party's rights and obligations pursuant to this Agreement; and

(c) in connection with exercising its rights hereunder, to its Affiliates; potential and future collaborators (including Sublicensees where Company is the Receiving Party); permitted and potential acquirers or assignees; potential investment bankers, investors and lenders; and, where Amgen is the Receiving Party, Japan Licensee;

provided that (1) with respect to the foregoing clause (a) or (b), where reasonably possible, Receiving Party shall notify Disclosing Party of Receiving Party's intent to make any disclosure pursuant thereto sufficiently prior to making such disclosure so as to allow Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) with respect to the foregoing clause (c), each of those named people and entities are required to comply with the restrictions on use and disclosure in Section 9.1.2 (Restrictions) (other than investment bankers, investors and lenders, which must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

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Section 9.2 Terms of this Agreement; Publicity.

9.2.1 Restrictions. The Parties agree that the terms of this Agreement shall be treated as Confidential Information of both Parties, and thus may be disclosed only as permitted by Section 9.1.4 (Permitted Disclosures). Except as required by law and except for the press release attached hereto as the Press Release Schedule to be issued on or after the Closing Date, each Party agrees not to issue any press release or public statement disclosing information relating to this Agreement or the Product in the Territory or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party not to be unreasonably withheld (or as such consent may be obtained in accordance with Section 9.2.2 (Review)).

9.2.2 Review. In the event either Party (the "**Issuing Party**") desires to issue a press release or other public statement disclosing information relating to this Agreement or the transactions contemplated hereby or the terms hereof, the Issuing Party shall provide the other Party (the "**Reviewing Party**") with a copy of the proposed press release or public statement (the "**Release**"). The Issuing Party shall specify with each such Release, taking into account the urgency of the matter being disclosed, a reasonable period of time within which the Receiving Party may provide any comments on such Release (but in no event less than [*] business days) and if the Receiving Party fails to provide any comments during the response period called for by the Issuing Party, the Reviewing Party shall be deemed to have consented to the issuance of such Release. If the Receiving Party provides any comments, the Parties shall consult on such Release and work in good faith to prepare a mutually acceptable Release. Either Party may subsequently publicly disclose any information previously contained in any Release so consented to. For the avoidance of doubt, notwithstanding anything to the contrary, Company, in its sole discretion, may (a) subject to the terms of Section 9.1 (Confidential Information), disclose information relating to Company's, its Affiliates', and Sublicensees' activities in connection with the subject matter hereunder, including information relating to research and any clinical trial conducted by Company (including in marketing or publicity materials) and any health or safety matter related to the Product and (b) disclose information relating to this Agreement or the transactions contemplated hereby to current and potential investors in and potential acquirers and Sublicensees of Company who are bound prior to disclosure by commercially reasonable obligations of confidentiality.

Section 9.3 Relationship to the Confidentiality Agreement. All "Confidential Information" disclosed or received by or on behalf of a Party under that certain Confidential Disclosure Agreement between Amgen and Kleiner Perkins Caufield & Byers, dated October 17, 2011, shall be deemed "Confidential Information" hereunder and shall be subject to the terms and conditions of this Agreement.

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Section 9.4 Publications.

9.4.1 Right to Publish.

(a) Subject to the provisions of Sections 9.1 (Confidential Information), 9.2 (Terms of this Agreement; Publicity) and 9.4.2 (Review), both Parties shall have the right to publish with respect to the Product in publications based in the Territory, and to make scientific presentations on the Product in the Territory (*provided* that prior to any such publication or presentation by Amgen with respect to the Product in the Territory, Amgen shall obtain Company's prior written consent). Neither Party shall publish the [*] or information concerning the [*] without the prior consent of the other Party.

(b) As between the Parties, Amgen shall have the sole right to publish with respect to the Product in publications based outside the Territory and to make scientific presentations on the Product outside the Territory. Upon Amgen's request, Company shall meet with Japan Licensee to formulate a global publication strategy for the Product in good faith. In addition, (i) Company shall not present or publish in the Territory data generated outside the Territory by or on behalf of Amgen's licensee or Amgen without Amgen's prior written consent and (ii) Amgen shall not present or publish outside the Territory data generated inside the Territory by or on behalf of Company or its Sublicensees without Company's prior written consent.

9.4.2 Review. Except as required by Law or court order, for any proposed publication or presentation regarding the Product in the Territory, the Party desiring to make such publication: (a) shall transmit a copy of the proposed publication for review and comment to the other Party and any applicable licensee) at least [*] days prior to the submission of such publication to a Third Party; (b) shall postpone such publication for up to an additional [*] days upon request of a Party (or applicable licensee) to allow the consideration of appropriate patent applications or other protection to be filed; (c) upon request of the other Party (or applicable licensee) shall remove all Confidential Information of the other Party (or applicable licensee); and (d) shall consider all reasonable comments made by the other Party (or applicable licensee).

ARTICLE 10 TERM AND TERMINATION

Section 10.1 Term. The term of this Agreement (the "**Term**") shall commence on the Signing Date, and unless terminated earlier as provided in this Article 10 (Term and Termination), shall continue in full force and effect until expiration of the last-to-expire Royalty Term for the Product in the Territory. Upon expiration of this Agreement, the licenses granted to Company by Amgen under this Agreement to Exploit the Product shall be fully paid-up, royalty-free, irrevocable and non-exclusive.

Section 10.2 Termination by Amgen.

10.2.1 Breach.

(a) Subject to Section 10.2.1(b), Amgen shall have the right to terminate this Agreement in full upon delivery of written notice to Company in the event of any material breach by Company of any terms and conditions of this Agreement; *provided* that such termination shall not be effective if such breach has been cured within [*] after written notice thereof is given by Amgen to Company specifying the nature of the alleged breach.

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(b) Notwithstanding the foregoing, in the event of a good faith dispute between the Parties as to whether Company has materially breached any terms or conditions of this Agreement (a "**Dispute**"), then, except [*], (i) the Parties shall resolve the Dispute pursuant to Section 11.4 (Governing Law; Jurisdiction) (the period until the resolution of such Dispute being the "**Dispute Period**"); (ii) each Party will continue to perform its obligations under this Agreement during the Dispute Period and (iii) if the relevant judicial finder of fact ("**Finder of Fact**") determines that Company is in material breach as asserted by Amgen (a "**Breach**"), then, following such adjudication by the Finder of Fact and in lieu of any such termination by Amgen, Company shall have the right to cure (A) any payment breach by payment in full of any finally determined monetary award and (B) any other breach that [*]. For avoidance of doubt, this Section 10.2.1 shall not abrogate Amgen's right to obtain injunctive or equitable relief at any time from a court of competent jurisdiction and/or attorneys' fees in connection with any relief so granted.

10.2.2 Termination for IP Challenge. To the extent allowed by Law, Amgen shall have the right, upon written notice to Company, to terminate in full (a) this Agreement, in the event that Company or any of its Affiliates directly challenges in a legal or administrative proceeding the patentability, enforceability or validity of any Licensed Patents or Framework Patents, or (b) any Sublicensee's sublicense, in the event that such Sublicensee directly challenges in a legal or administrative proceeding the patentability, enforceability or validity of any Licensed Patents; *provided* that Amgen shall not have the right to terminate any sublicense under Section 10.2.2 (b) (Termination for IP Challenge) for any such challenge by any Sublicensee if such challenge is dismissed within [*] days of Amgen's notice to Company under this Section 10.2.2 (Termination for IP Challenge) and not thereafter continued.

Section 10.3 Termination by Company.

10.3.1 Breach. Company shall have the right to terminate this Agreement in full upon delivery of written notice to Amgen in the event of any material breach by Amgen of any terms and conditions of this Agreement; *provided* that such termination shall not be effective if such breach has been cured within [*] days after written notice thereof is given by Company to Amgen specifying the nature of the alleged breach.

10.3.2 Discretionary Termination. Company shall have the right to terminate this Agreement in full [*] days after delivery of written notice to Amgen if the Board of Directors of Company concludes due to scientific, technical, regulatory or commercial reasons, including (a) safety or efficacy concerns, including adverse events of the Product, (b) concerns relating to the present or future marketability or profitability of the Product, (c) reasons related to patent coverage or (d) existing and anticipated competition, renders the Exploitation of the Product no longer commercially practicable for Company.

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Section 10.4 Termination Upon Bankruptcy. Either Party may terminate this Agreement if, at any time, the other Party shall (a) file in any court or agency pursuant to any statute or regulation of any state, country or jurisdiction, a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver or trustee of that Party or of its assets, (b) propose a written agreement of composition or extension of its debts, (c) be served with an involuntary petition against it, filed in any insolvency proceeding, and such petition has not been dismissed within [*] days after the filing thereof, (d) propose or be a party to any dissolution or liquidation, (e) make an assignment for the benefit of its creditors or (f) admit in writing its inability generally to meet its obligations as they fall due in the general course.

Section 10.5 Effects of Termination. Upon termination by either Party under Sections 10.2 (Termination by Amgen), 10.3 (Termination by Company) or 10.4 (Termination Upon Bankruptcy):

(a) Company shall responsibly wind-down, in accordance with accepted pharmaceutical industry norms and ethical practices, any on-going clinical studies for the Product for which it has responsibility hereunder in which patient dosing has commenced or, if reasonably practicable and requested by Amgen, Company, its Affiliates or its Sublicensees shall complete such trials. Company shall be responsible for any costs associated with such wind-down. Amgen shall pay all costs incurred by either Party to complete such studies should Amgen request that such studies be completed.

(b) A termination of this Agreement shall [*] with respect to the Product pursuant to Section [*]; *provided* that, with respect to [*], as of the effective date of termination and [*] consistent with the terms and conditions contained herein, with [*], or [*], Company may, to the extent it is legally permitted to do so, [*] and [*] and [*] and [*].

(c) All rights and licenses granted by Amgen to Company in Article 2 (License Grant) with respect to the Product shall terminate, and Company and its Affiliates shall cease all use of Licensed Know-How and Licensed Patents related to the Product and all Exploitation of the Product, except to the extent required under Section 10.5(a).

(d) Upon Amgen's request, all Marketing Approvals and other regulatory filings and communications relating to the Product owned (in whole or in part) or otherwise controlled by Company and its Affiliates and Sublicensees, and all other documents relating to or necessary to further Exploit any Product, as such items exist as of the effective date of such termination (including all related completed and ongoing clinical studies) shall be assigned to Amgen, and Company shall provide to Amgen one (1) copy of the foregoing and all documents contained in or referenced in any such items, together with the raw and summarized data for any clinical studies (and where reasonably available, electronic copies thereof). In the event of any failure to obtain assignment, Company hereby consents and grants to Amgen the right to access and reference (without any further action required on the part of Company, whose authorization to file this consent with any Regulatory Authority is hereby granted) any such item.

(e) Company hereby grants to Amgen and its Affiliates, and Amgen and its Affiliates shall automatically have, a [*] license, [*], under Know-How and Patent Rights that are Controlled by Company or any of its Affiliates and Sublicensees for Exploiting the Product and any improvement to any of the foregoing (such license effective only as of and after the effective date of such termination). The Patent Rights so licensed shall be subject to [*].

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(f) Upon Amgen's request, Company shall assign (or, if applicable, shall cause its Affiliates or Sublicensees to assign) to Amgen all of Company's (and such Affiliates' and Sublicensees') right, title and interest in and to any registered or unregistered trademarks or internet domain names worldwide that are specific to a Product (it being understood that the foregoing shall not include any trademarks or internet domain names that contain the corporate or business name(s) of Company).

(g) Company agrees (and shall cause its Affiliates and Sublicensees as a condition of the grant of the applicable Sublicense to so agree) to fully cooperate with Amgen and its designee(s) to facilitate a smooth, orderly and prompt transition of the Exploitation of Product in the Territory to Amgen and/or its designee(s). Upon request by Amgen, and at Amgen's expense, Company shall transfer to Amgen some or all quantities of the Product in its possession. If Company is, at the time of such termination of this Agreement, party to any Third Party contracts with respect to the Product, then it shall provide Amgen notice and (to the extent permitted to do so) copies thereof. Company shall assign to Amgen (and Amgen shall assume and perform) any such contracts requested by Amgen, to the extent it has the right under such contract(s) to do so (and shall use commercially reasonable efforts to obtain any required consents). In addition, Company shall, at Amgen's cost and expense, provide any cooperation reasonably requested by Amgen to ensure uninterrupted supply of the Product, If Company manufactured the Product at the time of termination, then Company shall continue to provide for manufacturing of such Product for Amgen, at [*] of the fully-burdened manufacturing cost therefor (for clarity, such cost will be paid by Amgen to Company), from the date of notice of such termination until the sooner to occur of (a) such time as Amgen is able, using commercially reasonable efforts to do so, to secure an acceptable alternative commercial manufacturing source from which sufficient quantities of Product may be procured and legally sold in the Territory and (b) [*] from the effective date of termination of this Agreement.

Company shall duly execute and deliver, or caused to be duly executed and delivered, such instruments and shall do and cause to be done such activities and things, including the filings of such assignments, agreements, documents and instruments, as may be necessary under, or as Amgen may reasonably request in connection with, Amgen's rights under this Section 10.5 (Effects of Termination).

Section 10.6 Survival. In addition to the termination consequences set forth in Section 10.5 (Effects of Termination), the following provisions shall survive termination or expiration of this Agreement: Articles 1 (Definitions), 7 (Indemnification), 8 (Confidentiality), and 10 (Miscellaneous) and Sections 2.7 (Limited Exploitation Rights), 3.3 (Milestone Payments) (with respect to milestones reached prior to such expiration or termination), 3.4 (Royalties) (with respect to sales made before such expiration or termination), 3.5 (Product Sublicensing Income) through 3.10 (Taxes) (inclusive) (with respect to periods with sales of Products made before such expiration or termination), 4.3 (Enforcement) through 4.5 (Recovery) (with respect to any action initiated prior to such expiration or termination), 7.3 (Disclaimer), 10.5 (Effects of Termination) and this Section 10.6 (Survival). Termination or expiration of this Agreement shall not relieve

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the Parties of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration nor preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement nor prejudice either Party's right to obtain performance of any obligation. All other rights and obligations shall terminate upon expiration of this Agreement.

ARTICLE 11 MISCELLANEOUS

Section 11.1 Entire Agreement; Amendment. This Agreement and all Schedules attached to this Agreement constitute the entire agreement between the Parties as to the subject matter hereof. All prior and contemporaneous negotiations, representations, warranties, agreements, statements, promises and understandings with respect to the subject matter of this Agreement are superseded hereby. Neither Party shall be bound by or charged with any written or oral agreements, representations, warranties, statements, promises or understandings not specifically set forth in this Agreement. No amendment, supplement or other modification to any provision of this Agreement shall be binding unless in writing and signed by both Parties.

Section 11.2 Section 365(n) of the Bankruptcy Code. All rights and licenses granted under or pursuant to any section of this Agreement are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101(35A) of the U.S. Bankruptcy Code to the extent permitted thereunder. The Parties shall retain and may fully exercise all of their respective rights and elections under the U.S. Bankruptcy Code or any analogous provisions in any other country or jurisdiction. Upon the commencement of a bankruptcy proceeding by or against either Party, the Party that is not a party to such proceeding shall further be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property and all embodiments of such intellectual property, which, if not already in the non-subject Party's possession, shall be promptly delivered to it, unless the Party subject to the proceeding elects to continue, and continues, to perform all of its obligations under this Agreement.

Section 11.3 Independent Contractors. The relationship between Company and Amgen created by this Agreement is solely that of independent contractors. This Agreement does not create any agency, distributorship, employee-employer, 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. Each Party shall use its own discretion and shall have complete and authoritative control over its employees and the details of performing its obligations under this Agreement.

Section 11.4 Governing Law; Jurisdiction. This Agreement and its effect are subject to and shall be construed and enforced in accordance with the law of [*], without regard to its conflicts or choice of law rules or principles, except as to any issue which depends upon the validity, scope or enforceability of any Licensed Patent, which issue shall be determined in accordance with the laws of the country in which such patent was issued. Each of the Parties hereby irrevocably and unconditionally consents to submit to the exclusive jurisdiction of the courts of [*] for any matter arising out of or relating to this Agreement and the transactions contemplated

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hereby, and agrees not to commence any litigation relating thereto except in such courts. Each of the Parties hereby irrevocably and unconditionally waives any objection to the laying of venue of any matter arising out of this Agreement or the transactions contemplated hereby in the courts of [*] and hereby further irrevocably and unconditionally waives and agrees not to plead or claim in any such court that any such matter brought in any such court has been brought in an inconvenient forum. The Parties agree that a final judgment in any such matter shall be conclusive and may be enforced in other jurisdictions by suits on the judgment or in any other manner provided by law. Any proceeding brought by either Party under this Agreement shall be exclusively conducted in the English language.

Section 11.5 Notice. Except as otherwise expressly set forth herein, all notices or communication required or permitted to be given by either Party hereunder shall be deemed sufficiently given if mailed by registered mail or certified mail, return receipt requested, or sent by overnight courier, such as Federal Express, to the other Party at its respective address set forth below or to such other address as one Party shall give notice of to the other from time to time hereunder. Mailed notices shall be deemed to be received on the third (3rd) business day following the date of mailing. Notices sent by overnight courier shall be deemed received the following business day.

If to Company:	Pinta Biosciences, Inc. c/o Kleiner Perkins Caufield & Byers 2750 Sand Hill Road Menlo Park, CA 94025 Attn: Isaac Ciechanover, MD
If to Amgen:	Amgen Inc. One Amgen Center Drive Thousand Oaks, CA 91320 Attn: Corporate Secretary

Section 11.6 Compliance With Law; Severability. Nothing in this Agreement shall be construed to require the commission of any act contrary to Law. If any one or more provisions of this Agreement is held to be invalid, illegal or unenforceable, the affected provisions of this Agreement shall be curtailed and limited only to the extent necessary to bring it within the applicable legal requirements, and the validity, legality and enforceability of the remaining provisions of this Agreement shall not in any way be affected or impaired thereby.

Section 11.7 Non-Use of Names. Amgen shall not, and shall require its Affiliates not to, use the name, trademark, logo or physical likeness of Company or any of its officers, directors or employees, or any adaptation of any of them, in any advertising, promotional or sales literature, without such Company's prior written consent. Company shall not, and shall require its Affiliates not to, use the name, trademark, logo or physical likeness of Amgen or any of its officers, directors or employees, or any adaptation of any of them, in any advertising, promotional or sales literature, without Amgen's prior written consent.

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Section 11.8 Successors and Assigns. Neither this Agreement nor any of the rights or obligations created herein, except for the right to receive any remuneration hereunder, may be assigned by either Party, in whole or in part, without the prior written consent of the other Party, not to be unreasonably withheld or delayed except that either Party shall be free to assign this Agreement in connection with any merger, sale of such Party or sale of all or substantially all of the assets of the Party relating to this Agreement (a "**Sale Transaction**"), without the prior consent of the non-assigning Party; *provided* that, in the case of a Sale Transaction of Company, the assignee shall be required to assume all of Company's obligations hereunder. This Agreement shall bind and inure to the benefit of the successors and permitted assigns of the Parties hereto. Any assignment of this Agreement in contravention of this Section 11.8 (Successors and Assigns) shall be null and void.

Section 11.9 Sale Transaction or Amgen Acquisition. In the event of (x) a Sale Transaction, or (y) the acquisition by Amgen of all or substantially all of the business of a Third Party (together with any entities that were Affiliates of such Third Party immediately prior to such acquisition, an "**Amgen Acquiree**"), whether by merger, sale of stock, sale of assets or otherwise (an "**Amgen Acquisition**"), the intellectual property rights of the acquiring party in a Sale Transaction, if other than one of the Parties to this Agreement (together with any entities that were affiliates of such Third Party immediately prior to such Sale Transaction, a "**Third Party Acquirer**"), or the Amgen Acquiree, as applicable, shall not be included in the technology licensed hereunder or otherwise subject to this Agreement.

Section 11.10 Waivers. A Party's consent to or waiver, express or implied, of the other Party's breach of its obligations hereunder shall not be deemed to be or construed as a consent to or waiver of any other breach of the same or any other obligations of such breaching Party. A Party's failure to complain of any act, or failure to act, by the other Party, to declare the other Party in default, to insist upon the strict performance of any obligation or condition of this Agreement or to exercise any right or remedy consequent upon a breach thereof, no matter how long such failure continues, shall not constitute a waiver by such Party of its rights hereunder, of any such breach, or of any other obligation or condition. A Party's consent in any one instance shall not limit or waive the necessity to obtain such Party's consent in any future instance and in any event no consent or waiver shall be effective for any purpose hereunder unless such consent or waiver is in writing and signed by the Party granting such consent or waiver.

Section 11.11 No Third Party Beneficiaries. Except as expressly provided with respect to Amgen Indemnified Parties and Company Indemnified Parties in Article 8 (Indemnification) and Amgen's licensees, including Japan Licensee, nothing in this Agreement shall be construed as giving any Person, other than the Parties hereto and their successors and permitted assigns, any right, remedy or claim under or in respect of this Agreement or any provision hereof.

Section 11.12 Headings; Schedules. Article and Section headings used herein are for convenient reference only, and are not a part of this Agreement. All Schedules are incorporated herein by this reference.

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Section 11.13 Interpretation. Except where the context otherwise requires, wherever used, the singular shall include the plural and the plural the singular, the use of any gender shall be applicable to all genders and the word "or" is used in the inclusive sense (and/or). The term "including" as used herein shall mean including, without limiting the generality of any description preceding such term. All references to a "business day" or "business days" in this Agreement means any day other than a day which is a Saturday or Sunday or any day banks are authorized or required to be closed in the United States. The language in all parts of this Agreement shall be deemed to be the language mutually chosen by the Parties. The Parties and their counsel have cooperated in the drafting and preparation of this Agreement, and this Agreement therefore shall not be construed against any Party by virtue of its role as the drafter thereof.

Section 11.14 Counterparts. This Agreement may be executed in counterparts by a single Party, each of which when taken together shall constitute one and the same agreement, and may be executed through the use of facsimiles or electronically transmitted documents.

[Signature page follows]

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IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first set forth above.

PINTA BIOSCIENCES, INC.	AMGEN INC.
By: /s/ Isaac Ciechanover	By: /s/ Jonathan Peacock
Name: Isaac Ciechanover	Name: Jonathan Peacock
Title: President	Title: Executive Vice President and Chief Finance Officer

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Schedule

Quality Agreement

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QUALITY AGREEMENT

Between

[Name of Company]

Hereafter referred to as “COMPANY”

and

AMGEN Inc.

Hereafter referred to as “AMGEN”

This Quality Agreement is intended by the Parties to set forth a plan for the quality assurance groups of AMGEN and COMPANY to work in relation to the manufacture, labeling, testing, release, shipping and storage of the Product (as defined below). By signing below, the respective quality assurance representatives acknowledge and agree to the provisions of this Quality Agreement.

Agreed and accepted for:	**Agreed and accepted for:**
[NAME OF COMPANY]	**AMGEN**
By:	By:
Printed Name:	Printed Name:
Title:	Title:
Date:	Date:

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1. BACKGROUND INFORMATION

1.1 AMGEN Inc. (hereinafter referred to as "AMGEN") and [Company Name] (hereinafter referred to as "COMPANY") (hereinafter referred to individually as "Party" or collectively as "Patties") have entered into an Exclusive License Agreement (the "License Agreement"), dated as of [ ], 2012, and a Supply Agreement (the "Supply Agreement"), dated as of [ ], 2012, regarding AMG 745 (the "Product") for clinical use. This Quality Agreement provides the quality requirements as specified under Section 5.4 of the License Agreement and Section2.1 of the Supply Agreement.

1.1.1 This Quality Agreement defines the quality obligations of the Parties and their respective affiliates or approved contractors, with respect to the manufacture, labeling, testing, release, and delivery of Product in accordance with the License Agreement and Supply Agreement and the quality aspects of such Product.

2. SCOPE

2.1 The provisions of this Quality Agreement supplement the provisions of the License Agreement and Supply Agreement. The terms of the License Agreement and Supply Agreement shall remain in full force and effect. In the event of any conflict between the License Agreement, or Supply Agreement, and this Quality Agreement, the License Agreement and Supply Agreement shall govern over the conflict.

2.2 This Quality Agreement may be amended only by mutual written agreement of the Parties.

2.3 Exhibits to this Quality Agreement are intended to provide additional definition to the applicable topic and, as such, should be updated to reflect the current information and business process, as applicable. Amendment of the Exhibits does not require re-approval of the Quality Agreement unless the Quality Agreement itself is affected. Exhibits and all amendments of Exhibits shall be approved by mutual written agreement of the Parties.

2.4 All activities under this Quality Agreement shall be performed in compliance with cGMP regulations.

2.5 This Quality Agreement shall expire at the termination, cancellation, or expiration, as the case may be, of the License Agreement.

3. DEFINITIONS

3.1 All capitalized terms not otherwise defined in this Quality Agreement shall have the definition set forth in the License Agreement and/or Supply Agreement.

3.2 As used in this Quality Agreement, the following terms shall have the following meanings:

Certificate of Analysis (CoA)	CoA prepared for Product representing the analytical results for the material, the accuracy of which has been certified by AMGEN. This is an approved record provided by AMGEN for a given batch containing the analytical test results required by the specification for the material.
Certificate of Compliance (CoC)	CoC (or QADS) prepared by AMGEN for the Product representing that the Product was manufactured according to cGMP requirements.
Disposition Manager	AMGEN Quality Assurance staff member qualified to perform the comprehensive quality assessment and make the disposition decision for a specific batch of Product.
Disposition Package	Documentation set provided to COMPANY representing AMGEN batch disposition of the Product. Documents comprising the Disposition Package are provided in Exhibit B.
Drug Substance	Shall have the meaning given in the Supply Agreement.
Drug Product	The finished dosage form of AMG745 in labeled vials delivered in accordance with License Agreement and the Supply Agreement.
Final Release	Release of Product for distribution by COMPANY in accordance with COMPANY standard operating procedures (“SOPs”).
cGMP	All applicable laws and regulations relating to current Good Manufacturing Practices, as promulgated by the United States Food and Drug Administration (FDA), and foreign equivalents thereof as promulgated by the applicable Regulatory Authority in the European Union or Canada.
Disposition Package	Documentation set provided to COMPANY representing AMGEN batch disposition of the Product. Documents comprising the Disposition Package are provided in Exhibit B.
Manufacturer’s Release	Release of Product by AMGEN, according to AMGEN’s procedures and cGMP regulations.
Manufacturing Information Schedule	The information listed under the heading “Manufacturing Information” in the Licensed Know-How Schedule attached to the License Agreement.
Material Change	A material change to the Specifications or the manufacturing process for Product, or any other material changes to the Product including the analytical methods that AMGEN uses that support performance of its obligations under the License Agreement or Supply Agreement.
Nonconformance	Deviations incurred during the manufacture, testing, or storage of the Product prior to delivery to COMPANY, which were determined by AMGEN procedures to potentially impact the safety, identity, strength, potency, or quality of the Product.
Out of Specification (OOS)	An examination, measurement or test result that does not conform with pre-established specification requirements established by the relevant Party.

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Product	The Drug Substance and Drug Product manufactured by AMGEN.
Quality Assurance Disposition (QAD)	A document containing the disposition decision for a specific batch of Product.
Qualified Person	Qualified Person, as defined in 2001/83 EC and 2001/20 EC; responsible for (QP) certification of any Product batch prior to its use in a European clinical study.
Recall	A “recall” or “market withdrawal” (each as defined per Section 7.3 of Title 21 (Food and Drugs) of the Code of Federal Regulations, or, with respect to a jurisdiction other than the United States, the equivalent regulations of the applicable Regulatory Authority in such jurisdiction) of Product or any lots thereof.
Reference Sample	Sample collected from the manufacture of Product for the purpose of being analyzed, should the need arise, to support significant investigations.
Regulatory Authority	Any government administrative agency, commission or other governmental authority, body or instrumentality, or any federal, state, local, domestic or foreign governmental regulatory body.
Reprocessing	Reprocessing shall mean introducing an intermediate or active pharmaceutical ingredient, including one that does not conform to standards or specifications, back into the process and repeating a step (e.g., filtration) that is part of the established manufacturing process.
Retention Samples	A fully packaged unit from a batch of Drug Product. It is stored for identification purposes.
Rework	Rework shall mean subjecting an intermediate that does not conform to one or more processing steps that are different from the established manufacturing process to obtain acceptable quality intermediate or Product.
Specifications	AMGEN approved set of analytical methods, requirements, and acceptance criteria as used to judge the identity, purity and potency of all source materials, raw materials, and fmished filled Product which comprises the material, as referenced in the Specifications Schedule.
Specifications Schedule	The Specifications Schedule attached to the License Agreement.

4. RESPONSIBILITIES

4.1 Without limiting any other provision of this Quality Agreement, the Parties agree that this Quality Agreement is intended to carry out the following guiding principles:

4.1.1 The Parties’ quality obligations with respect to the manufacture, labeling, testing, release, and delivery of Product are as set forth in this Quality Agreement.

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4.1.1.1 The Parties acknowledge that AMGEN shall have the right to perform responsibilities hereunder through its Affiliates (as defined in the License Agreement) and contractors.

5. COMMUNICATION

5.1 AMGEN and COMPANY agree to provide verbal communication to one another, in a timely manner, as necessary or appropriate for a given issue. Both Parties also agree to follow-up and clarify promptly in writing those important verbal communications to ensure clarity of issues.

5.2 Routine verbal and written communications required herein shall be delivered to the individuals indicated in EXHIBIT A or their delegates.

5.3 Each Party must notify the other in writing of any (potential) theft, counterfeits and illegal diversion of Product manufactured by AMGEN within twenty-four (24) hours upon awareness of such events.

6. BATCH DISPOSITION (PRODUCT RELEASE)

6.1 AMGEN Quality Responsibility

6.1.1 AMGEN shall be responsible for the Manufacturer's Release of the material to COMPANY.

6.1.2 AMGEN shall provide to COMPANY the Disposition Package for each batch of material supplied to COMPANY, upon shipment. The documents to be included in the Disposition Package are provided in Exhibit B.

6.2 COMPANY Quality Responsibility

6.2.1 COMPANY shall be solely responsible for the Final Release of the Product for distribution within the Territory.

6.2.2 COMPANY shall be deemed to have conclusively and fully accepted the Product unless COMPANY notifies AMGEN in writing of any claim to the effect that the Product received did not meet the Specifications and/or cGMP requirements, within thirty (30) days of receipt.

6.2.3 A QP authorized by COMPANY will be responsible for certification of Product for use in clinical trials in the European Union, according to the requirements set out in the European Union cGMPs.

7. QUALITY CONTROL/TESTING

7.1 Transfer and Qualification of Analytical Testing

7.1.1 The provisions of this Section 7 supplement the terms of the License Agreement and Supply Agreement relating to the know-how and scientific and technical information needed for compliance of the Product in the United States, Canada and/or the European Union.

7.1.2 Refer to the Manufacturing Information Schedule for the transfer of analytical methods from AMGEN to COMPANY.

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7.1.3 As part of such transfer, AMGEN shall provide COMPANY with reference standard and non-commercial critical reagents and supporting documentation in accordance with AMGEN policies and procedures. Refer to the Manufacturing Information Schedule for the transfers of reference standard and non-commercial critical reagents.

7.2 AMGEN Testing Responsibility

7.2.1 AMGEN will conduct testing of Product according to Specifications, methods, policies and procedures as approved by AMGEN. AMGEN shall provide the Specifications to COMPANY per the Manufacturing Information Schedule.

7.2.2 Stability Testing

7.2.2.1 AMGEN will continue the initiated stability studies of the Product per the AMGEN Stability program and provide data updates as set forth in the Manufacturing Information Schedule. As soon as practical, AMGEN will notify COMPANY of any confirmed stability failure of the Product and provide periodic updates on the OOS investigation.

7.2.2.2 AMGEN will be responsible for assigning a Product expiration date per AMGEN's Stability program requirements.

7.3 COMPANY Testing Responsibility

7.3.1 Batch release documents will be evaluated by COMPANY upon receipt for conformance to Specifications and applicable cGMP requirements. COMPANY will not be performing additional testing to the AMGEN released batches.

8. REFERENCE SAMPLES

8.1 AMGEN shall retain Reference Samples for each manufactured batch of Product released to COMPANY per AMGEN established procedures.

8.2 The amount of samples collected will be in compliance with AMGEN policies and procedures and applicable Law.

9. RETENTION SAMPLES

9.1 COMPANY is responsible for retaining Retention Samples for each packaged batch of Product released for clinical distribution per established COMPANY procedures and applicable Law.

10. LABELAPPROVAL

10.1 Label Creation and Application

10.1.1 AMGEN will be responsible for labeling of Product that will be distributed to COMPANY according to AMGEN procedures. The label will include the following information: cautionary statement, Amgen artwork number, manufacturing date and drug product batch number.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

11. RECEIVING. SHIPPING, STORAGE and DESTRUCTION

11.1 AMGEN shall make Product available for shipment to COMPANY in an appropriate manner that will assure the stability of the Product during shipment, using defined, qualified packaging configurations.

11.2 AMGEN shall ship labeled Product to COMPANY per AMGEN policies and procedures.

11.3 Upon receipt, COMPANY is responsible for reviewing tracking data, inspecting security seals and labels for evidence of tamper, and performing reconciliation of Product upon receipt of shipment per COMPANY procedures. COMPANY shall notify AMGEN within two (2) business days of becoming aware of any discrepancies.

11.3.1.1 AMGEN and COMPANY will jointly investigate any discrepancies within AMGEN's defined quality systems.

11.4 COMPANY is responsible for reviewing shipping data such as temperature recording data and storage conditions upon receipt of shipment.

11.5 COMPANY is responsible for adequate storage of the Product upon receipt according to the storage requirements specified in the Specifications.

11.6 COMPANY shall be responsible for the destruction of any unused Product and material in accordance with applicable Law.

11.7 Unused cGMP materials including excipients, raw material, primary packaging components, product contacting material (e.g. resin) will be destroyed and reconciled by AMGEN per AMGEN procedures.

12. CHANGE CONTROL

12.1 Changes by AMGEN

12.1.1 AMGEN shall notify COMPANY of AMGEN's intention to implement any Material Change. The notification of such Material Change and the details of such Material Change shall be provided to COMPANY by AMGEN according to EXHIBIT C.

12.1.1.1 COMPANY's QA will respond to such notification for a Material Change within two (2) business days of receipt.

12.2 Notwithstanding anything to the contrary in this Section 12, AMGEN shall have the right to immediately make any change required to protect patient safety or as required by applicable Law and shall give COMPANY prompt written notice thereof.

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13. INVESTIGATIONS OF NONCONFORMANCES, DISCREPANCIES (POST DISTRIBUTION NC'S)

13.1 If a Nonconformance, as solely determined by AMGEN, is identified after a Product batch has been shipped to COMPANY, AMGEN shall inform COMPANY as soon as reasonably possible of such Nonconformance.

13.2 AMGEN will provide support, as necessary and reasonable, to enable COMPANY to comply with applicable regulatory reporting requirements that may result from the occurrence of Nonconformances.

14. VISITS, AUDITS AND INSPECTIONS

14.1 Person-in-Plants

14.1.1 Neither Party shall have the right to have a person-in-plant in the other Party's facilities to observe operations and documentations.

14.2 For Cause Audit by COMPANY

14.2.1.1 Upon the request of COMPANY and approval by AMGEN, AMGEN shall permit COMPANY to conduct a "For Cause" audit during the Term in the case of a quality or regulatory event, which events may include recall of Product in the Territory.

14.2.1.2 Such "For Cause" audits require prior written request by COMPANY and shall be conducted during normal AMGEN business hours. The scope, agenda, and timeline for such audit must be approved by AMGEN prior to conducting the audit. The written notification must clearly state the scope of the audit and regulatory standards to be used to conduct the audit.

14.2.2 Audit Findings

14.2.2.1 At COMPANY's or AMGEN's request, an exit meeting shall be held with COMPANY and its representatives and AMGEN and its representatives to discuss audit findings, if any. COMPANY shall provide AMGEN with a copy of the audit report within thirty (30) calendar days upon completion of the audit. For those findings that AMGEN determines in good faith may materially affect AMGEN's ability to perform the Services, AMGEN shall issue a written response to COMPANY's report within thirty (30) days of AMGEN's receipt of such report. AMGEN's response shall identify the timelines and approach for addressing COMPANY's findings.

14.3 Regulatory Agency Inspections

14.3.1 COMPANY shall notify AMGEN within twenty-four (24) hours upon notification by any Regulatory Authority of any intended inspection of AMGEN's facilities or records relating to the manufacturing, testing, and storage of the Product.

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14.3.2 AMGEN will be solely responsible for hosting and managing regulatory inspections at its facilities.

14.3.3 COMPANY will have the right to review and comment on AMGEN's proposed response to observations raised by the Regulatory Authorities relating to the Product and AMGEN shall consider such comments in good faith. AMGEN shall provide COMPANY with a copy of the final response after submission to any Regulatory Authorities.

14.3.4 AMGEN will inform COMPANY of any critical Regulatory Authority inspection observations not directly relevant to the Product where it can reasonably be assumed the observation impacts upon the Services or Product provided to COMPANY.

15. DISPUTE RESOLUTION

15.1 Disputes relating to non-compliance or nonconformance of Product with the Specifications shall be governed by the terms set forth in Section 11.4 of the License Agreement.

16. CUSTOMER COMPLAINTS

16.1 COMPANY shall notify AMGEN of any complaints related to the manufacturing processes of the Product supplied by AMGEN that reasonably require an investigation under applicable Law or current practices within one (1) business day after COMPANY first becomes aware of such information.

16.2 COMPANY will use commercially reasonable efforts to provide AMGEN with information and complaint samples, or if such samples are not available, images of defects in Product, including a reasonable failure description, in order to permit proper and timely complaint investigation specifically for the corresponding defect. Upon receipt of COMPANY's investigation request, AMGEN shall perform an investigation into the root cause of the problem according to AMGEN's policies and procedures, and provide an investigation update within forty-five (45) calendar days following receipt of such notification.

16.3 Complaint investigation requests and results shall be directly communicated between COMPANY and AMGEN complaint representatives. A list of contacts shall be provided to each Party and updated in writing by each Party within a reasonable period of time after any Party changes its contact(s).

17. REPROCESSING AND REWORK

17.1 AMGEN will not conduct any Reprocessing or Reworking of materials of Product without prior approval by COMPANY.

18. RECALLS AND VOLUNTARY WITHDRAWALS

18.1 COMPANY shall have the sole right to control a Recall of the Product in the Field in the Territory; provided that COMPANY shall not take any action with respect to any Recall in the Field in the Territory without first notifying AMGEN and meeting (in person, by telephone or otherwise, as mutually agreed) with

AMGEN (and, if so requested by AMGEN, Japan Licensee) to discuss the circumstances of such potential Recall and to consider appropriate courses of action provided that the foregoing shall not limit COMPANY's obligations in relation to Recalls under any applicable Law and COMPANY shall be entitled to take action in relation to a Recall without first notifying AMGEN where it considers such action is reasonably necessary to be taken in a time-frame that does not reasonably permit such notification (in which case it shall provide such notification promptly thereafter). COMPANY shall maintain complete and accurate records of any such Recall for such periods as may be required by Law, but in any event for no less than fifteen (15) years. AMGEN (and its licensees) shall have the sole right to control the handling of any Recall in Japan.

19. RESPONSIBLE PERSONS: CONTACT INFORMATION

19.1 The individuals listed in EXHIBIT A shall be the key points of contact between AMGEN and COMPANY relating to the rights and obligations of the Parties in this Quality Agreement.

20. GENERAL

20.1 The provisions of Sections 11.3 through 11.8 (inclusive) and 11.10 through 11.14 (inclusive) of the License Agreement are incorporated herein by reference and apply hereto mutatis mutandis.

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EXHIBIT A

Responsible Persons and Contact Information

COMPANY

Name	Email Address	Contact Number	Responsibility

AMGEN

Name	Email Address	Contact Number	Responsibility
Daniel Armstrong			Senior Manager, Alliance Management
Cylia Chen			Specialist, International Quality

Exhibit A Version Date: _____

Agreed and accepted for:	**Agreed and accepted for:**
[COMPANY NAME]	**AMGEN**
By:	By:
Printed Name:	Printed Name:
Title:	Title:
Date:	Date:

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EXHIBIT B
AMGEN Disposition Package

The following documents are to comprise the AMGEN Disposition Package to support the release of each Product batch to COMPANY:

General	Nonconformance List and Summary for cell banking, Drug Substance and Drug Product (Report includes only lot-tied nonconformances deemed by AMGEN to have a potential impact of the safety, identity, strength, potency, or quality of the Product, according to established AMGEN procedures.
Drug substance manufacture	Core batch documentation for each clinical batch, including Expansion/cell culture Harvest Purification Preparation of UF/DF buffers Formulation and Final Filtration CoC/QAD, CoA
Drug Product Manufacture	Batch documentation for each clinical batch, including Sterile filtration Filling Capping and Inspection CoC,CoA

Exhibit B Version Date: _____

Agreed and accepted for:	**Agreed and accepted for:**
(COMPANY NAME]	**AMGEN**
By:	By:
Printed Name:	Printed Name:
Title:	Title:
Date:	Date:

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EXHIBITC
Change Control Business Process

SOP-013477, Amgen's Partner Change Notification Process, governs the process by which AMGEN identifies and notifies COMPANY of changes as required per the Quality Agreement. This procedure leverages AMGEN's existing change control.

AMGEN Quality point of contact is responsible for screening changes for impact to COMPANY, notifying COMPANY of the change and recording COMPANY's assessment in AMGEN's change control management system. COMPANY is notified by the AMGEN Quality point of contact of a change through the use of a controlled form FORM-022482, Change Notification. The Change Notification will provide COMPANY with all relevant information regarding the proposed change thereby allowing COMPANY to fully assess the change and the impact of the change to COMPANY, including any applicable Product regulatory filing(s). COMPANY must provide a response to the change using this same form within two (2) business days from the date of receipt by COMPANY of such notification.

Exhibit C Version Date: _____

Agreed and accepted for:	**Agreed and accepted for:**
(COMPANY NAME]	**AMGEN**
By:	By:
Printed Name:	Printed Name:
Title:	Title:
Date:	Date:

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Schedule

Supply Agreement

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SUPPLY AGREEMENT

This **SUPPLY AGREEMENT** ("**Supply Agreement**") is made and entered into as of [ ], 2012 ("Effective Date") by and between Amgen Inc., a corporation organized under the laws of the State of Delaware having an address at One Amgen Center Drive, Thousand Oaks, California 91320-1799, U.S.A. ("**Amgen**"), and Pinta Biosciences, Inc., a Delaware corporation having an address at [ ] ("**Company**"). Amgen and Company are sometimes referred to herein individually as a "Party" and collectively as the "Parties".

RECITALS

WHEREAS, Amgen and Company have entered into that certain Exclusive License Agreement dated as of September 7, 2012 pursuant to which Amgen grants certain licenses to Company for the development, manufacture and commercialization of the Product (as defined therein) (the "**License Agreement**"); and

WHEREAS, in connection with the License Agreement, Company desires to procure from Amgen, and Amgen is willing to perform for Company, certain transitional fill/finish services relating to AMG 745 (as more fully described herein), on the terms and conditions hereof.

NOW, THEREFORE, in consideration of the premises and the mutual promises and covenants contained in this Supply Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledge, the Parties agree as follows:

1. DEFINITIONS

The following defined terms are used in this Supply Agreement and shall have the meanings set forth below. Capitalized terms used but not defined in this Supply Agreement shall have the meanings ascribed to them in the License Agreement.

"**Batch**" means a single lot of Finished Drug Product.

"**Company Proprietary Technology**" means all Technology and rights thereto relating to the Finished Drug Product that are transferred to Company pursuant to the License Agreement or that are thereafter owned, developed, or controlled by Company and that Company in turn provides to Amgen hereunder during the Term of this Supply Agreement.

"**Delivery**" (or Deliver or other variants thereof) means completion of in-process release testing by Amgen and the availability of Finished Drug Product for shipment pursuant to Section 3.2.

"**Delivery Date**" means a date stated in the Services Schedule for which Delivery of Finished Drug Product is expressly specified.

"**Disposition**" (or Dispose or other variants thereof) means either the rejection or acceptance of a Batch, or part thereof, by the applicable quality assurance department of Amgen.

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"**Drug Substance**" means the substance or mixture of substances intended to be used in the manufacture of AMG 745 and that, when used in the production of AMG 745, becomes an active pharmaceutical ingredient of AMG 745.

"**Facility**" means Amgen's facilities located in Thousand Oaks, California.

"**Finished Drug Product**" means Drug Substance that has been Processed by Amgen pursuant to this Supply Agreement and that meets the Specifications.

"**Intellectual Property Rights**" means any and all now known or hereafter existing: (i) rights associated with works of authorship, including copyrights and moral rights; (ii) trade secret rights; (iii) patent rights and industrial property rights; (iv) other proprietary rights in Technology of every kind and nature; and (v) all registrations, applications, renewals, and extensions of the foregoing, in each case in any jurisdiction throughout the world.

"**Processing**" means, with respect to Drug Substance, to filter, formulate, sterile filter, aseptically fill, lyophilize (if applicable), inspect and/or Disposition to form Finished Drug Product all in accordance with cGMP and the Specifications. "Process" and "Processed" shall have comparable meanings.

"**Quality Agreement**" means that certain agreement entitled "Quality Agreement" entered into by and between Company and Amgen and dated as of the date hereof, as such may be amended from time to time.

"**Services**" means the Processing tasks, functions and other responsibilities and activities specifically set forth in the Services Schedule.

"**Specifications**" means the written requirements for the Finished Drug Product which are attached as the Specifications Schedule to the License Agreement.

"**Subcontractor**" means a person or entity that has been retained by Amgen pursuant to the terms of this Supply Agreement to perform a portion of Amgen's obligations hereunder.

"**Technology**" means all inventions (whether or not patentable), discoveries, know-how, tradesecrets, methods, processes, techniques, confidential information, specifications, protocols, schematics, diagrams, reagents, compounds, samples, formulations, data, databases, works of authorship, and other forms of technology.

"**Term**" means the period of time during which this Supply Agreement is in effect in accordance herewith.

2. TERMS REGARDING SERVICES.

2.1 Services. During the Term and subject to the terms and conditions of this Supply Agreement, Amgen shall, or shall cause one or more of its Affiliates or Subcontractors to, perform the Services in accordance with cGMP for the purpose of Processing the Drug Substance for Company to produce and store Finished Drug Product. Amgen shall perform quality control and quality assurance testing consistent with cGMP as set out in the Quality

Agreement. The Parties agree that the Quality Agreement shall set forth the responsibilities of the Parties with respect to quality and regulatory aspects of the Services hereunder. Pending Processing of the Drug Substance into Finished Drug Product, Amgen shall store such Drug Substance on behalf of Company in accordance with the Specifications.

2.2 Cooperation and Coordination. The Parties shall cooperate with each other in all matters relating to the provision and receipt of the Services. Company and Amgen shall each appoint an authorized representative (each, a "Coordinator") for the exchange of all communications, other than legal notices, related to the Services. The name and title of the initial Coordinators shall be provided in writing. Each Party may replace its Coordinator at any time for any reason by providing written notice to the other Party.

2.3 Transitional Nature of the Services.

(i) Acknowledgement. Company acknowledges and agrees that (a) the Services provided hereunder are transitional in nature and are furnished by Amgen solely in connection with the transactions contemplated by the License Agreement; (b) Amgen does not routinely provide such Services to third parties; and (c) Amgen has no interest in continuing the provision of any of the Services after expiration of the Term. Company and Amgen expressly acknowledge and agree that the obligation of Amgen to provide transitional services under this Supply Agreement to Company following the Effective Date is limited to the Services set forth in the Services Schedule, and, except as specifically provided in the License Agreement, there exists no obligation on the part of Amgen to provide any other transitional or other services to Company following the Effective Date.

(ii) Transition Covenant. Company shall (a) timely perform the obligations of Company set forth in this Supply Agreement in support of the Services and, with the assistance of Amgen as provided in the License Agreement, timely complete the transition of the Services to Company or a third party on Company's behalf at the expiration of the Term; and (b) take all such action reasonably requested by Amgen or as otherwise reasonably necessary to facilitate, support and encourage the timely completion of the Services and transition the Services at the expiration of the Term to Company's internal organization, to one or more contract manufacturing organizations, or to one or more other third party suppliers acting on Company's behalf all as provided in the License Agreement.

3. TITLE, SHIPMENT, AND RISK OF LOSS.

3.1 Title. As between Amgen and Company, upon receipt of payment by Amgen from Company under Section 3.2 of the License Agreement, Company shall hold title to the Finished Drug Product.

3.2 Shipment of Finished Drug Product. Amgen and Company shall meet the Delivery Date requirements agreed to by the Parties as set forth in the Services Schedule. All Finished Drug Product shall be shipped to Company or its designee EXW (Ex Works) (as defined in Incoterms 2010) Amgen's Facility. Company shall establish and maintain an account with a mutually acceptable carrier for purposes of shipping Finished Drug Product from Amgen to Company or its designee. Company shall be responsible for shipping and transportation costs. Risk of loss or damage to Finished Drug Product shall transfer to Company when made available to Company for pickup at Amgen's Facility warehouse.

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4. TERM AND TERMINATION.

4.1 Term. The term of this Agreement shall commence on the Effective Date and shall, unless terminated earlier in accordance with this Article 4, expire on completion in full of the Services.

4.2 Suspension of Services. Amgen's obligations to perform the Services shall be automatically suspended if Company is in breach of any material covenant, warranty or obligation hereunder or under the License Agreement, until Company has cured such breach. This Supply Agreement shall automatically terminate upon the termination of the License Agreement.

4.3 Survival. In addition to any provision of this Supply Agreement that expressly survives the termination of this Supply Agreement, the provisions of Sections 2.3, 4.2 and 4.3 and Articles 1, 5, 6, 7, 9 and 10 shall survive the termination of this Agreement. All other provisions of this Agreement shall terminate and be of no further effect upon the termination of this Agreement for any reason.

5. REPRESENTATIONS AND WARRANTIES.

5.1 Representations and Warranties by Company. Company represents and warrants to Amgen as follows:

(i) Finished Drug Product supplied by Amgen under this Supply Agreement that is covered by the license granted under the License Agreement shall be used solely in accordance with the License Agreement; and

(ii) Company shall comply with all Laws, including all importation and export control laws, if applicable.

5.2 Disclaimer. EXCEPT AS EXPRESSLY PROVIDED IN THE LICENSE AGREEMENT, AMGEN MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO ANY SERVICE PROVIDED HEREUNDER OR FINISHED DRUG PRODUCT DELIVERED HEREUNDER, INCLUDING WARRANTIES OF TITLE, FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, VALIDITY, AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.

6. CONTRACTUAL RELATIONSHIP. Nothing contained in this Supply Agreement shall be construed as creating a partnership, joint venture, agency, trust, employer-employee relationship, or other association of any kind, each Party being individually responsible only for its obligations as set forth in this Supply Agreement.

7. CONFIDENTIALITY. Each Party agrees to protect the confidentiality of any Confidential Information received from the other Patty pursuant this Supply Agreement in accordance with Article 9 of the License Agreement, which article is incorporated herein by reference.

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8. INTELLECTUAL PROPERTY.

8.1 License Grant to Amgen. Subject to the terms and conditions of this Supply Agreement, Company hereby grants to Amgen a non-exclusive, non-transferable, fully-paid, and royalty-free license, with the right to sublicense to Subcontractors (prior approved by Company in writing), to use Company Proprietary Technology to perform the Services under this Supply Agreement.

8.2 No Implied Licenses. Except as expressly provided in this Article, nothing contained in this Supply Agreement is intended to confer by implication, estoppel, or otherwise, upon any Party any license or rights in any Intellectual Property Rights of the other Party.

9. LIMITATION OF LIABILITY.

9.1 The provisions of Section 8.2 of the License Agreement shall apply mutatis mutandis to this Supply Agreement.

10. MISCELLANEOUS.

10.1 General. The provisions of Sections 11.3 through 11.8 (inclusive) and 11.10 through 11.14 (inclusive) of the License Agreement are incorporated herein by reference and apply hereto mutatis mutandis.

10.2 Amendments. No amendment, supplement or other modification to any provision of this Supply Agreement shall be binding unless in writing and signed by both Parties.

10.3 Entire Agreement. This Supply Agreement, together with the License Agreement and the Quality Agreement, constitute the entire agreement between the Parties and supersedes all prior and contemporaneous agreements and understandings, both written and oral, between the Parties with respect to the subject matter hereof.

10.4 UN Convention. The United Nations Convention on Contracts for the International Sale of Goods shall have no application to, and shall be of no force and effect with respect to, this Supply Agreement or the matters herein set forth or contemplated.

[Signature page follows]

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IN WITNESS WHEREOF, the authorized representatives of the Parties have executed this Supply Agreement as of the date first set forth above.

AMGEN INC.	PINTA BIOSCIENCES, INC.
By: _____	By: _____
Name:	Name:
Title:	Title:

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SCHEDULE

INVENTORY

Batch#	Quantity of Vials	Expiry Date	Notes
[*]	[*]	[*]	[*]

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SCHEDULE

SERVICES

1. Description of the Services. The Services to be performed at Amgen's Facility are as follows: [*]

2. Description of the Finished Drug Product. AMG 745 material [*]

3. Delivery Dates. Amgen shall make the Finished Drug Product set forth on the Inventory Schedule available for pick-up at Amgen's Facility warehouse on a date to be mutually agreed by the parties in writing at least three (3) weeks in advance of the pickup date, which shall be [*].

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Schedule Licensed
Know-How

[*]

[32 pages omitted]

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Schedule

Licensed Materials

[*]

[4 pages omitted]

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Schedule

Licensed Patents

[*]

[6 pages omitted]

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Schedule

Milestones and Royalties

1. Milestone Payments: The Milestone Events and Milestone Payments to be made pursuant to Section 3.3 of the Agreement are as follows:

Milestone Event (Product)	Payment
Development Milestones with respect to the Product	
[*]	[*]
Commercial Milestones with respect to the Product	
[*]	[*]

2. Royalties: The royalty rates payable under Section 3.4 of the Agreement with respect to Net Sales of Product are as follows:

   (i) [*] on the portion of annual Net Sales for the Product less than [*];

   (ii) [*] on the portion of annual Net Sales for the Product between [*] and [*], inclusive; and

   (iii) [*] on the portion of annual Net Sales for the Product greater than [*].

   For the avoidance of doubt, if the Product is Covered by more than one Licensed Patent, the above royalty shall be paid only once.

3. Third Party Payments. In the event that Company or any of its Affiliates or Sublicensees obtains a license under Patent Rights of a Third Party in any country in the Territory that Company or its Affiliate or Sublicensee, on the advice of patent counsel, determines, in the absence of a license thereunder, would be considered to be Infringed by the development, manufacture, use, sale, offer for sale or import of the Product sold by Company (or its Affiliate or Sublicensee) in such country (in each case, a **"Necessary Third Party License"),** then Company may deduct [*] of the royalties actually paid to such Third Party under such Necessary Third Party License with respect to sales of the Product in such country from the royalty payments owed to Amgen pursuant to Section 2 of this Milestones and Royalties Schedule with respect to Net Sales of the Product in such country.

4. No Valid Claim. In the event that the Product is not Covered by at least one (1) Valid Claim of a Licensed Patent within the Territory, then the royalty rates set forth in Section 2(a) of this Milestones and Royalties Schedule with respect to the Product shall be reduced by [*].

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5. Maximum Deduction. In no event, however, shall a deduction, or deductions, in the royalty rate pursuant to Section 3 of this Milestones and Royalties Schedule and Section 4 of this Milestones and Royalties Schedule, reduce the royalty rate payable by Company on Net Sales of a the Product during a given calendar quarter pursuant to Section 2 of this Milestones and Royalties Schedule by more than [*] in the aggregate.

6. Mutual Convenience of the Parties. The royalty and other payment obligations set forth hereunder have been agreed to by the Parties for the purpose of reflecting and advancing their mutual convenience, including the ease of calculating and paying royalties and other amounts to Amgen. Company hereby stipulates to the fairness and reasonableness of such royalty and other payment obligations and covenants not to allege or assert, nor to allow any of its Affiliates or Sublicensees to allege or assert, nor further to cause or support any other Third Parties to allege or assert, that any such royalty or other payment obligations are unenforceable or illegal in any way.

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Schedule

Permitted CMOs

[*]

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Schedule

Pre-Existing Agreements

[*]

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Schedule

Press Release

[Schedule begins on following page.]

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Amgen to License Assets to Atara Biotherapeutics, Kleiner Perkins Caufield & Byers' (KPCB) Newly Formed Drug Development Company

September x, 2012, Thousand Oaks, CA - Amgen (NASDAQ: AMGN) and KPCB today announced an agreement that licenses six Amgen assets to Atara Biotherapeutics, a newly formed drug development company financed by KPCB. The in-licensed assets from Amgen are in various stages of development, from preclinical to early clinical. These drugs will form the foundation of Atara's focus on developing innovative drug therapies for patients with cancer and chronic diseases, including nephrology and oncology. Financial terms of the transaction are not being disclosed.

Atara will have facilities in both the Bay Area and Thousand Oaks, Calif., where it can help broaden the biotechnology hub around Amgen. The Atara leadership team will be comprised of individuals having previous experience from both Amgen and KPCB. Amgen will have a minority equity interest in Atara, with rights to an observer seat on Atara's Board of Directors.

> "Amgen is excited to partner with KPCB, a preeminent venture capital firm, to foster a creative business model that will help advance molecules in Amgen's pipeline to treat serious illness," said Sean E. Harper, M.D., executive vice president of Research and Development at Amgen. "The creation of Atara Biotherapeutics also provides the opportunity to further foster biotechnology innovation in Amgen's headquarters' communities."
>
> "The model for Atara will enable us to build on Amgen's research to bring a promising group of therapeutics to patients with serious illnesses, enabling them to have a better quality of life," said Dr. Isaac Ciechanover, CEO Atara Biotherapeutics (former partner at KPCB).

About Kleiner Perkins

Since its founding in 1972, Kleiner Perkins Caufield & Byers has backed entrepreneurs in more than 500 ventures including AOL, Amazon.com, Citrix, Compaq, Electronic Arts, Google, Groupon, Intuit, Juniper Networks, Netscape, Sun, Symantec, Verisign, webMD and Zynga. This also includes lifesciences companies Genentech, Genomic Health, Idec and Onyx to name a few. KPCB portfolio companies employ more than 350,000 people worldwide. More than 150 of the firm's portfolio companies have gone public, and many other KPCB ventures have achieved success through mergers and acquisitions. KPCB focuses its global investments in three practice areas - digital, greentech and life sciences - and provides entrepreneurs with company-building expertise out of its offices in Silicon Valley, Beijing and Shanghai.

About Amgen Amgen discovers, develops, manufactures and delivers innovative human therapeutics. A biotechnology pioneer since 1980, Amgen was one of the first companies to realize the new science's promise by bringing safe, effective medicines from lab to manufacturing plant to patient. Amgen therapeutics have changed the practice of medicine, helping millions of people around the world in the fight against cancer, kidney disease, rheumatoid arthritis, bone disease and other serious illnesses. With a deep and broad pipeline of potential new medicines, Amgen remains committed to advancing science to dramatically improve people's lives. To learn more about our pioneering science and vital medicines, visit http://www.amgen.com/. Follow us on http://twitter.com/amgen.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Schedule

Business Plan

[Schedule begins on following page.]

ATARA BIOTHERAPEUTICS

KPCB | KLEINER PERKINS CAUFIELD BYERS

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Big Idea

- Innovative company model
  - Multiple shots on goal – three M&A stage programs in 3-4 years
  - [*]

- Novel products
  - De-risked portfolio of assets, in human POC achieved
  - Biology has applicability in multi-billion dollar indications: cancer, dialysis, aging…

- [*]

Atara Tx – Executive Team

Name	Role	Previous Experience
Isaac Ciechanover, MD	Founder, President, & CEO	• Partner KPCB's Life Sciences Group • Celgene, various roles in BD, Clinical Project Management
[*]		
Christopher Haqq, MD	CMO	• CEO Genomic Systems • VP Cougar/JNJ. Led pivotal Zytiga (abiraterone acetate) trial through global approvals • Dir. Amgen (3 INDs)
John McGrath	COO & Secretary	• Partner KPCB Operations Team • CFO of Network Equipment Technologies (NYSE Listed)

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Contributors

Scientific Advisory Board	Roles	Drugs Developed
[*]		
Consultants		
[*]		
Board Members		
[*]		

MUSCLE PORTFOLIO

TARGETING UNMET MEDICAL NEEDS

Muscle Wasting and Cachexia Represent A Large Unmet Medical Need

Muscle Wasting and Cachexia

Highly debilitating and life-threatening

Common to many major diseases:

- ***CKD***
- ***Cancer***
- ***CHF***
- ***AIDS***
- ***COPD***

Steve Jobs

Sept. 19, 2007 Sept. 9, 2008

About Renal Cachexia

- [*]
- Correlates with death and hospitalization, with median survival 2 years worse than most cancers
- No effective treatment in the clinic

Patrick Swayze

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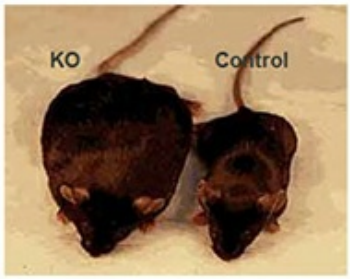
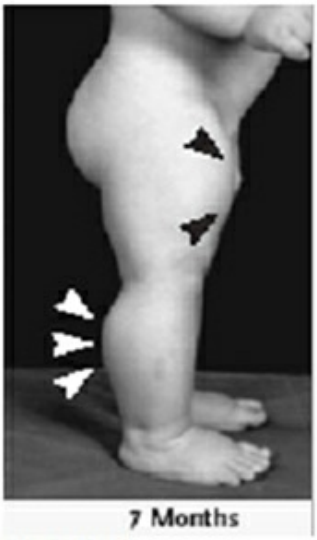
Myostatin Loss-of-Function Phenotype In Multiple Species Suggests A New Opportunity to Combat Muscle Wasting

McPherron AC & Lee SJ , *PNAS* (1997)
Grobet L. et al. *Nature Genet.* (1997)



McPherron AC, Lawler AM, Lee SJ. *Nature* (1997)



Schuelke M. et al.
New England Journal of Medicine (2004)

Mosher D, et al., PloS Genetics. (2007)

ATA 745

Executive Summary – ATA 745

Agent Type	Peptibody - a novel molecule engineered by fusing an IgG1 Fc domain to a peptide which inhibit Myostatin
Indication	Protein Energy Wasting in ESRD – a prevalent [*] condition associated with decreased physical function and increased mortality
Value Proposition	Based on preclinical and clinical data, ATA 745 may improve lean body mass, physical function and increase survival
Conviction	De-risked program: • Successfully achieved proof-of-concept tested in humans • Phase II ready (including materials)
Plan	• Team has developed a clinical strategy [*] • Regulatory & KOL discussions to inform program

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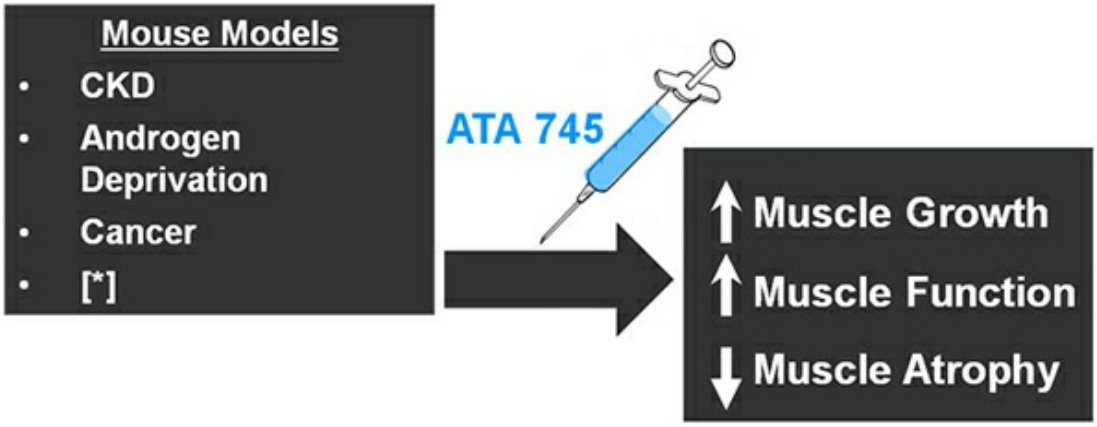
ATA-745 is an Anti-Myostatin Peptibody

[*]

ATA 745 Stimulates Muscle Growth and Attenuates Muscle Wasting in Various Preclinical Models



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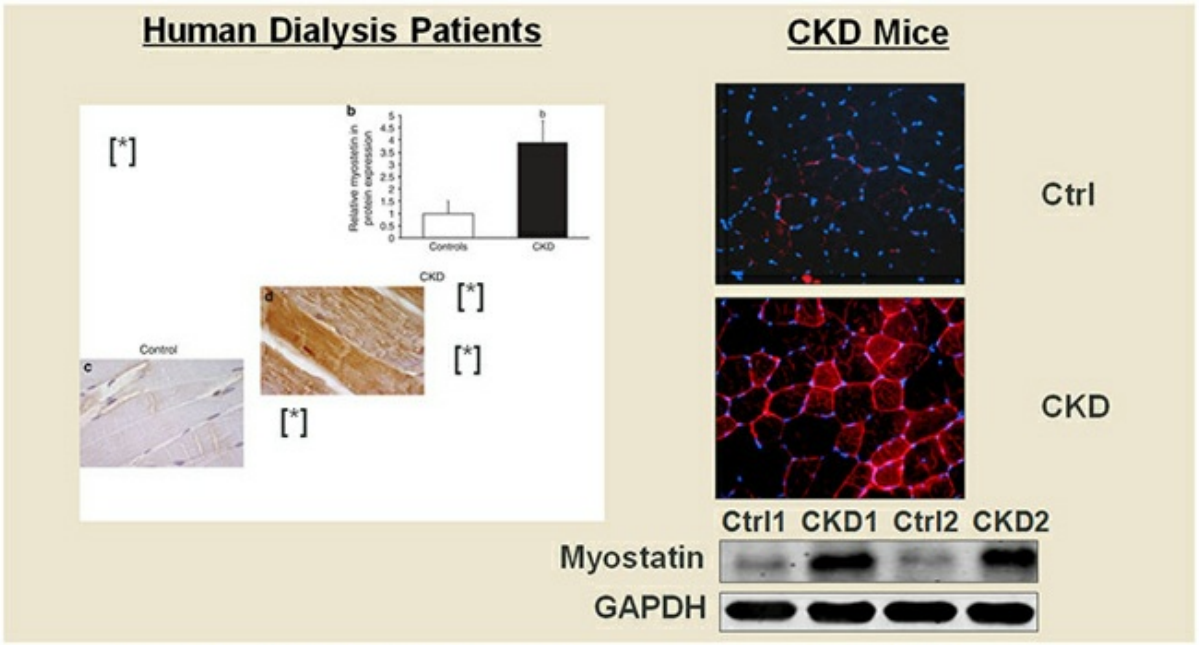
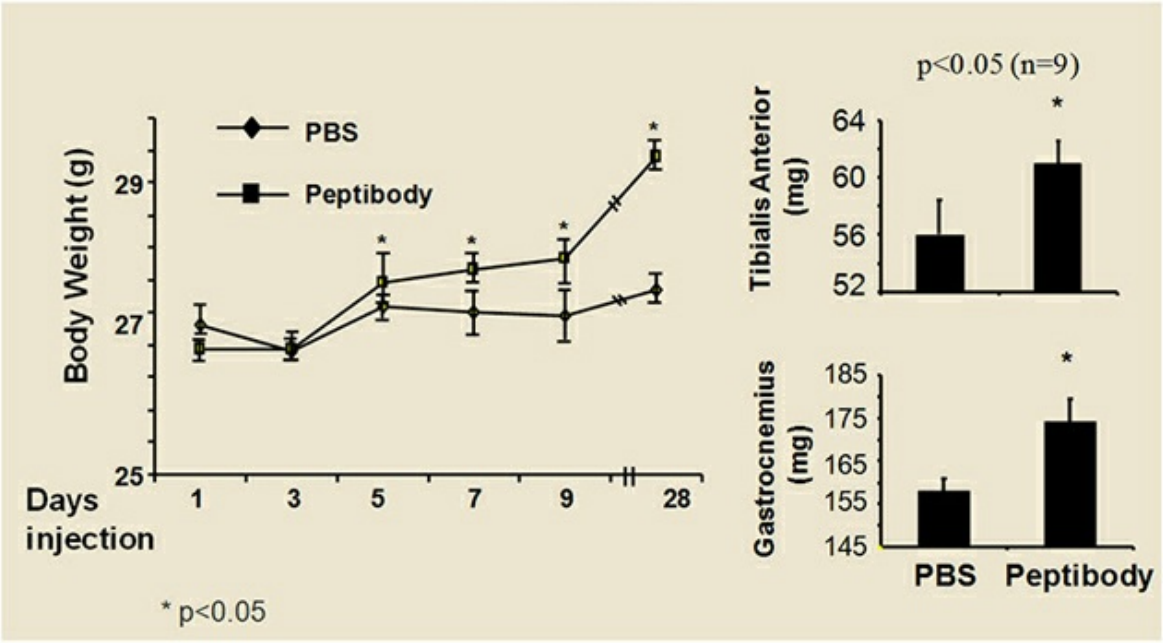
Myostatin Expression in Muscles Is Upregulated in Human CKD Patients and in CKD Mice

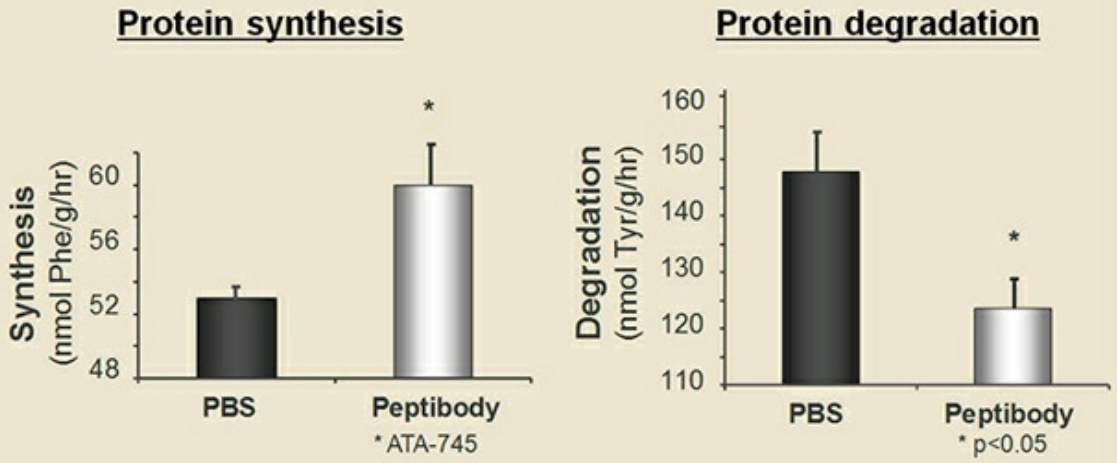


Verzola et al., 2011 Kidney International **79** *In collaboration with William E. Mitch*

ATA 745 Increases Body Weight and Muscle Mass in CKD Mice



ATA 745 Stimulates Protein Synthesis and Inhibits Protein Breakdown in Muscles in CKD Mice



The ATA 745 mechanism is via AKT stimulation and FOXO inhibition

ATA 745 Reduces TNF-a and IL-6 Key Mediators of Cachexia and Inflammation in CKD Mice

[*]

ATA-745 vs CKD:

	WT Control (pg/ml)	[*]	[*]	P Values	
				CKD vs. wt	Peptibody vs. PBS
TNF-α	*0.1±0.06*	[*]	[*]	*0.189*	*0.033**
IL-6	5.8±0.48	[*]	[*]	0.041*	*0.036**

ATA 745
Clinical Review and Next Steps

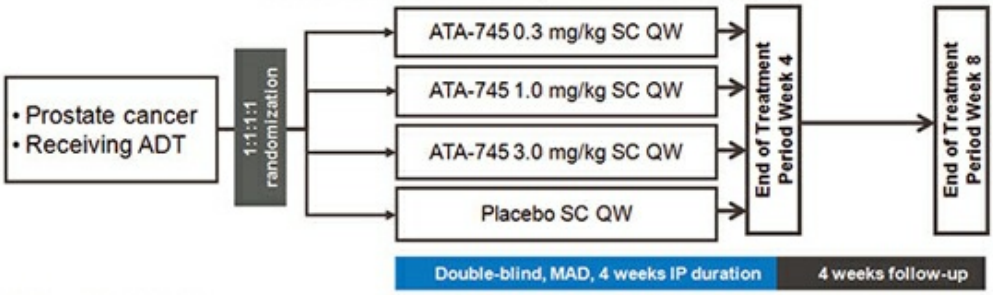
ATA 745 Toxicology [*]

Development

- [*]

[*] Multidose Phase I Study Design

Prostate cancer patients on androgen deprivation therapy (ADT) assessed for safety and efficacy



Efficacy End Points

•Change in

- Lean body mass (DEXA)
- lower-extremity muscle size (CT)
- [*]
- [*] also conducted Single Dose PK/Safety Phase 1

ATA 745 Pharmacokinetic Overview

PK Observation	Clinical Implication
[*]	

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ATA 745 Safety Profile

3 Phase 1 studies with 151 enrolled subjects
- 48 subjects exposed to highest dose 3mg/Kg

No treatment related SAEs across all studies

Identified risks from clinical trials:
- Injection site reaction
- [*]

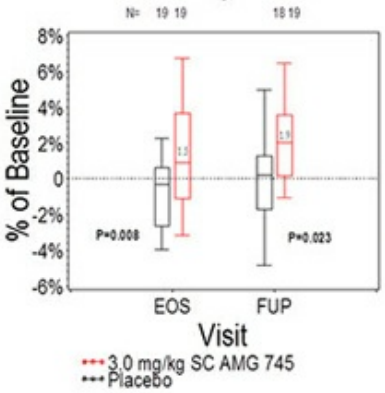
ATA-745 appears to be safe and well tolerated

[*]

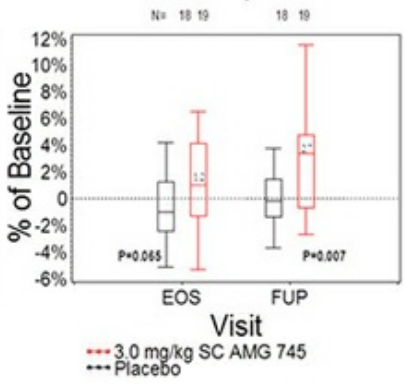
[*]

ATA 745 is the First Myostatin Antagonist to Show Muscle Growth Efficacy in Patients

Lean Body Mass



Lower Extremity Muscle Size



[*]

EOS: End-of-study (1 month); FUP: Follow-up-period (1 month)

Patients average age = 73 years; ADT = Androgen Deprivation Therapy

- Patients with ADT lose about ~4% muscle mass [*]
- One month treatment with ATA 745 increased muscle mass by ~2%

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ATA 745 CMC Characteristics

[*]

ATA 745 Clinical Plan

[*]

[*]

ATA 745 Development Plan

[*]

ATA 434/777

Executive Summary – ATA 777 or 434

Agent Type	• ATA 434 – soluble receptor fusion protein inhibiting ligands such as Myostatin and Activin [*] • ATA 777 – fully human antibody inhibiting Activin [*]
Indication	• Ovarian cancer – Annual WW death rate of 125,000 (15,000 in the US), ranking the disease as the deadliest cancer for women
Value Proposition	Preclinical data supports dual role in treating OC: • Anti-tumor effect in combination with chemotherapy • Anti-cachexia - preserving and growing muscle
Conviction	[*]
Plan	[*] • Regulatory & KOL discussions to inform program

Activin-A Is A Key Mediator of *BOTH* Ovarian Tumor Growth and Cachexia

Activin-A:

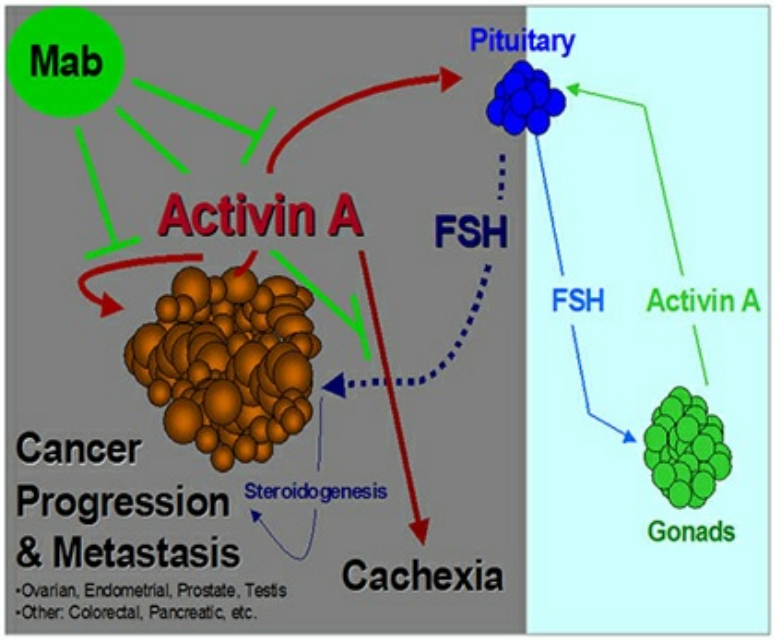
TGFβ family member originally identified in gonadal fluids

Physiology:

- Secreted by the gonads
- Stimulates FSH release in the pituitary – reg. ovarian cycle
- Paracrine factor in wound healing, cell proliferation and differentiation, immune response and angiogenesis

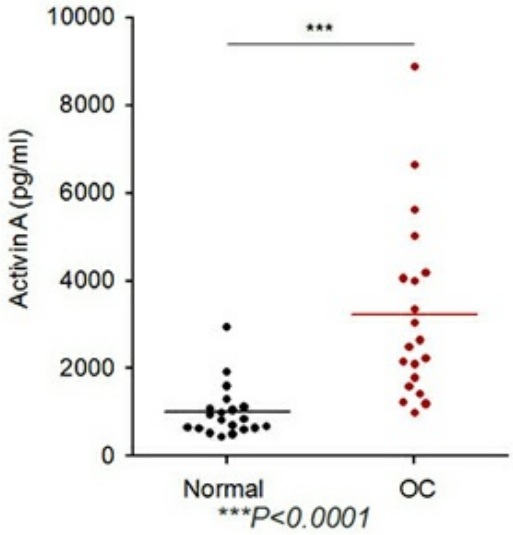
Pathophysiology:

- Elevated in cancer and inflammation
- Cancer cachexia
- Tumor Progression



Activin Levels Are Markedly Elevated in Patients with OC & May Serve as a Biomarker

[*] Serum Activin (ELISA)



Ovarian Cancer Literature

- Seventy-two percent of the stage III and IV patients (26/36), and none (0/5) of the stage I patients, had an elevated preoperative serum Activin level.

- In postoperative samples, Activin A levels were increased with persistent or recurrent (n = 9) stage III or IV ovarian cancer.

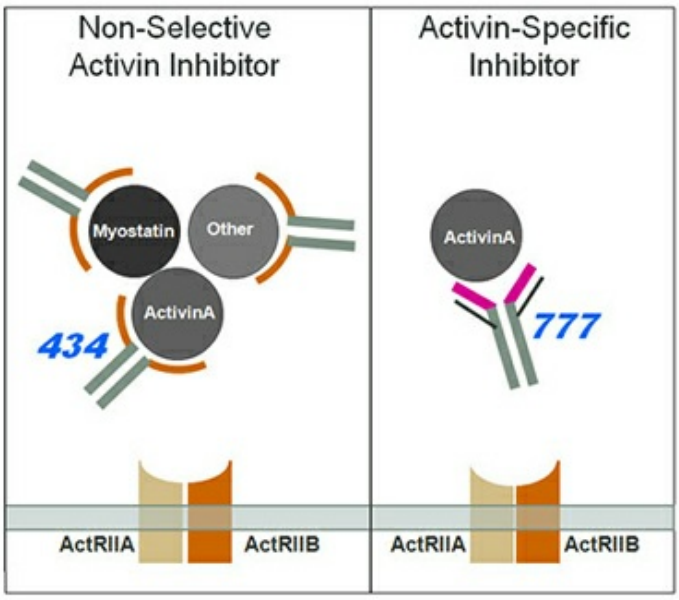
CONCLUSION:

- Serum Activin A levels correlate with recurrent or persistent disease in patients with epithelial ovarian cancer

- Activin Levels will be Evaluated as a Potential Predictive Biomarker in CKD Clinical Trials

Source: Lambert-Messerlian et al., 1999 Gynecol Oncol. 74(1):93-7

ATA 434 and 777 Potently Antagonize Activin-A, a Key Mediator of Ovarian Cancer Growth & Cachexia



434 [*]

Soluble ActRIIB decoy receptor [*] which sequesters Activin-A as well as myostatin and other closely related ligands

[*]

777 [*]

Fully human antibody [*]

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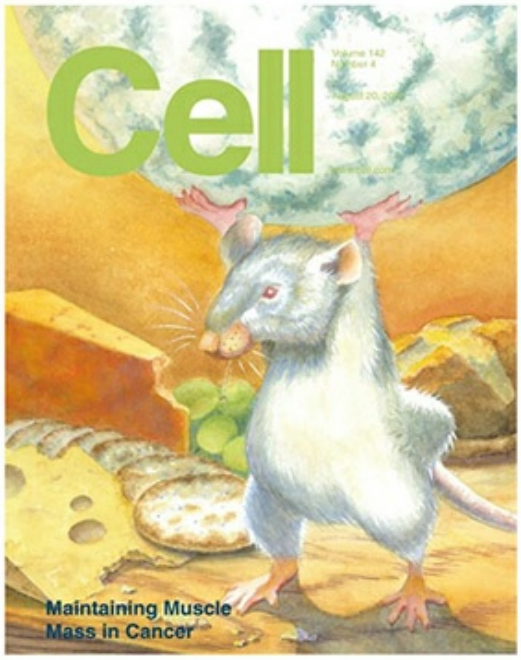
Reversal of Muscle Wasting Leads to Prolonged Survival in Cancer Mice



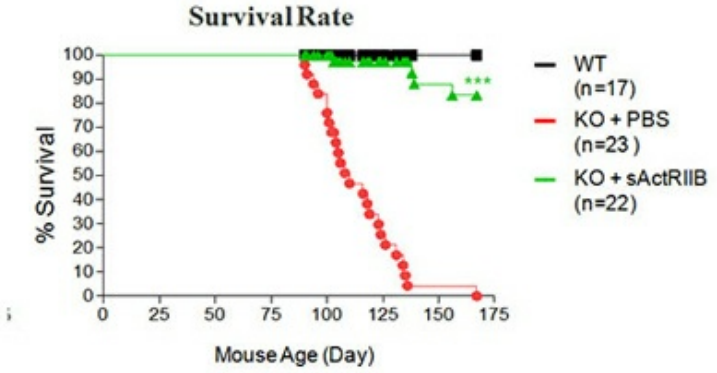
In tumor-bearing mice, blocking the Myostatin-Activin signaling pathway:

- Reversed muscle loss, cardiac atrophy, and anorexia
- Extended lifespan even without reducing tumor growth
- Suppressed Ub-proteasome system activity in skeletal muscle
- Stimulated muscle stem cell growth and muscle regeneration

ATA 434 Reverses Cachexia and Prolongs Survival in Mice with Ovarian Tumors

[*]

[*]



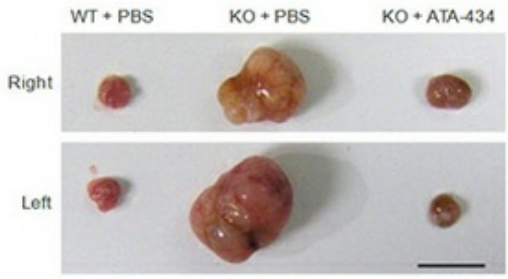
[*]

[*]

ATA 434 [*] Neutralize Activin and Regress Established Ovarian Tumors in Mice

[*]

Ovarian Tumor Size

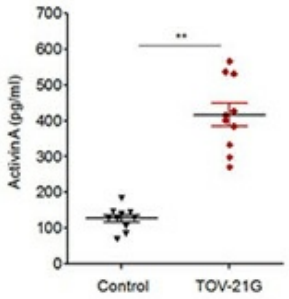


[*]

[*]

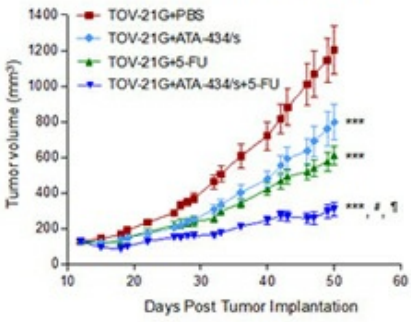
ATA 434 [*] Show Additive Antitumor Activity with Chemo in Ovarian Cancer Xenografts

Serum Activin A



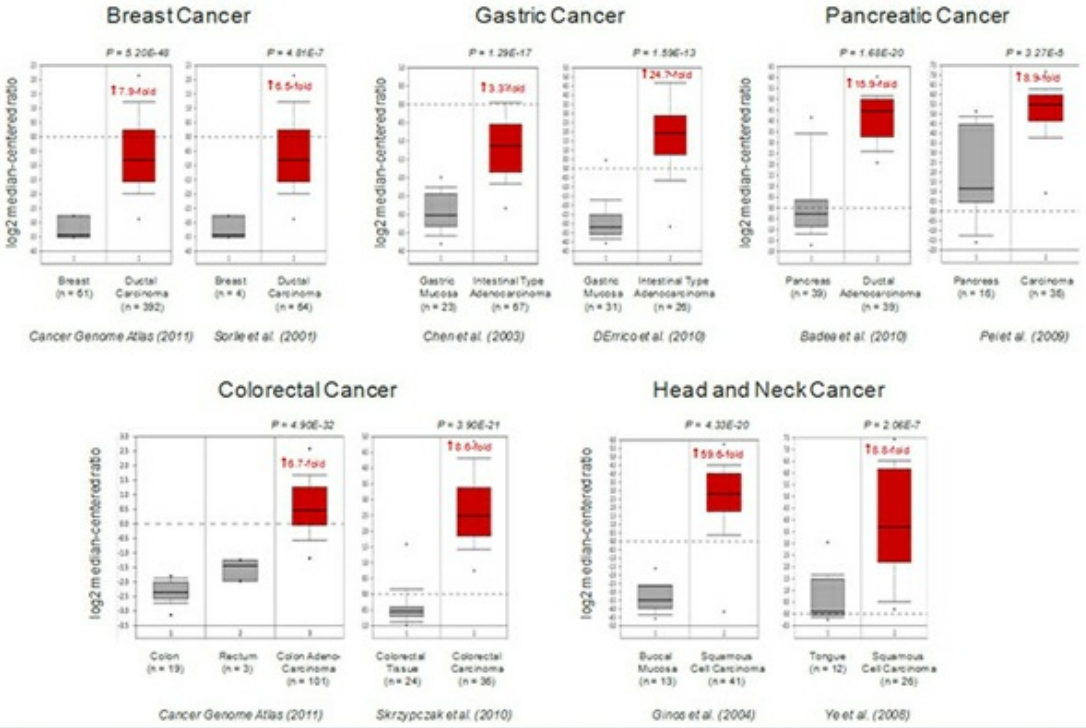
[*]

Additive Effect w/ 5-FU



[*] [*]

Beyond Ovarian Cancer, A Potential Role of Activin Inhibition Will be Explored



NEXT STEPS 434/777

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[*]

ATA 777 (vs ATA 434) Development Strategy

[*]

ATA 434 Development Plan

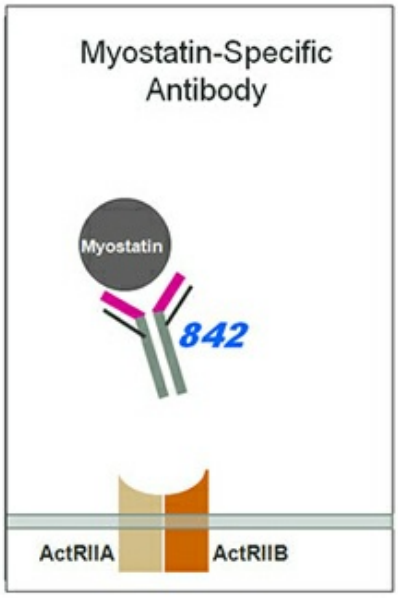
[*]

ATA 842

Executive Summary – ATA 842

Agent Type	Novel humanized antibody inhibiting Myostatin
Indication	• Cancer-related muscle loss is present in approximately 80% of patients with advanced cancer • Tremendous unmet need for an anabolic muscle agent like ATA 842 which can increase lean muscle mass, and potentially maintain physical function, quality life and extend survival
Value Proposition	Preclinical data in multiple animal models has shown: [*]
Conviction	Lilly advancing its own Myostatin antibody (LY2495655) in four phase II clinical trials, including cancer cachexia. ATA 842 is a superior antibody with greater selectivity. [*]
Plan	• Manufacture ATA 842 and conduct key pre-clinical studies to validate thesis [*] • Regulatory & KOL discussions to inform program

ATA 842 is a Potent Selective Myostatin Inhibitor



Humanized antibody [*], which inhibits Myostatin with a [*] selectivity [*]

[*]

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[*]

[*]

[*]

[*]

[*]

ATA 842 Next Steps

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ATA 842 Development Strategy

[*]

[*]

ATA 842 Development Plan

[*]

ATA 842 Next Steps

[*]

Financing & Budget

Budget and Financing Timing

[*]

Financing Plans and Deliverables

[*]

Schedule

Product

[*]

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Exhibit 10.21

EXCLUSIVE LICENSE AGREEMENT

by and between

AMGEN INC.

and

SANTA MARIA BIOSCIENCES, INC.

Dated as of September 7, 2012

TABLE OF CONTENTS

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LIST OF SCHEDULES

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EXCLUSIVE LICENSE AGREEMENT

This **EXCLUSIVE LICENSE AGREEMENT** (this "**Agreement**") is entered into as of September 7, 2012 (the "**Signing Date**") by and between **AMGEN INC.**, a Delaware corporation having an address at One Amgen Center Drive, Thousand Oaks, California 91320 ("**Amgen**"), and **SANTA MARIA BIOSCIENCES, INC.**, a Delaware corporation ("**Company**"). Company and Amgen are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties**".

RECITALS

WHEREAS, Amgen is a company engaged in the research, development, manufacturing and commercialization of pharmaceutical and biotechnology products;

WHEREAS, Amgen possesses certain rights to patents and other intellectual property related to its proprietary compounds AMG 777, AMG 434, AMG 217 and ActRIIB5, comprising the respective amino acid sequences set forth on the Products Schedule (collectively, the "**Products**" and each individually, a "**Product**");

WHEREAS, Company desires to license from Amgen such intellectual property rights, and to commercially develop, manufacture, use and distribute the Products based upon the same throughout the Territory (defined below); and

WHEREAS, Amgen desires to grant such a license to Company in accordance with the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual promises and covenants contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto agree as follows:

ARTICLE 1. DEFINITIONS

All references to particular Schedules, Articles or Sections shall mean the Schedules to, and Articles and Sections of, this Agreement, unless otherwise specified. For the purposes of this Agreement and the Schedules hereto, the following words and phrases shall have the following meanings:

"**Abandoned Patent Right**" has the meaning set forth in Section 4.2 (Amgen Step-In Right).

"**Affiliate**" means, with respect to any Person, any other Person which controls, is controlled by or is under common control with such Person, for as long as such control exists. For purposes of this Section, "**control**" means the direct or indirect ownership of more than fifty percent (50%) of the voting or economic interest of a Person, or the power, whether pursuant to contract, ownership of securities or otherwise, to direct the management and policies of a Person. For clarity, once a Person ceases to be an Affiliate of a Party, then, without any further action, such Person shall cease to have any rights, including license and sublicense rights, under this Agreement by reason of being an Affiliate of such Party.

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"**Agreement**" has the meaning set forth in the Preamble.

"**Amgen**" has the meaning set forth in the Preamble.

"**Amgen Acquiree**" has the meaning set forth in Section 11.9 (Sale Transaction or Amgen Acquisition).

"**Amgen Acquisition**" has the meaning set forth in Section 11.9 (Sale Transaction or Amgen Acquisition).

"**Amgen Cell Lines**" shall mean those certain proprietary cell lines that Amgen has developed for the generation of the Products. For avoidance of doubt, Amgen Cell Lines are Licensed Materials hereunder.

"**Amgen Indemnified Parties**" has the meaning set forth in Section 8.1.2 (By Company).

"**Audited Party**" has the meaning set forth in Section 3.9 (Records and Audits).

"**BLA**" means (a) a Biologics License Application, supplemental Biologics License Application, or similar application filed or to be filed with the FDA, as described in Title 21 of the U.S. Code of Federal Regulations, Part 601, *et seq.*, or (b) any corresponding foreign application in another country or regulatory jurisdiction in the Territory, including, in the case of the European Union, a Marketing Approval Application filed with the EMA pursuant to the centralized approval procedure or with the applicable Regulatory Authority of a country in the European Union with respect to the mutual recognition or any other national approval procedure.

"**cGMP**" means the FDA's current good manufacturing practices, as specified in 21 C.F.R. §§ 210 and 211 and the FDA's guidance documents and all successor regulations and guidance documents thereto, and foreign equivalents thereof with respect to the European Union and Canada.

"**Closing Date**" means the first date on which the Company sells Series A Preferred Stock and Series A-1 Preferred Stock to its initial investors, including Amgen.

"**Commercially Reasonable Efforts**" means those efforts and resources commensurate with those efforts commonly used in the biopharmaceutical industry by a company of comparable size in connection with the development or commercialization of biopharmaceutical products that are of similar status, including, with respect to commercial potential, the proprietary position of the product, the regulatory status and approval process, the probable profitability of the applicable product, and other relevant factors such as technical, legal, scientific or medical factors. In determining the level of efforts constituting "**Commercially Reasonable Efforts,**" the following shall [*].

"**Company**" has the meaning set forth in the Preamble.

"**Company Indemnified Parties**" has the meaning set forth in Section 8.1.1 (By Amgen).

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"**Confidential Information**" has the meaning set forth in Section 9.1.1 (Confidential Information).

"**Control**" or "**Controlled**" means, with respect to any Know-How, material, Patent Right, or other intellectual property right, the possession (whether by ownership or license) by a Party or its Affiliates of the ability to grant to the other Party a license or access as provided herein to such Know-How, material, Patent Right, or other intellectual property right, without violating the terms of any agreement or other arrangement with any Third Party, or being obligated to pay any royalties or other consideration therefor, in existence as of the time such Party or its Affiliates would first be required hereunder to grant the other Party such license or access.

"**Cover**" means (a) with respect to Licensed Know-How, the Exploitation of the product would require use of such Licensed Know-How, and (b) with respect to a Patent Right, a Valid Claim would (absent a license thereunder or ownership thereof) be Infringed by the Exploitation of the product; *provided* that in determining whether a Valid Claim that is a claim of a pending application would be Infringed, it shall be treated as if issued as then currently prosecuted. Cognates of the word "**Cover**" shall have correlative meanings.

"**Defending Party**" has the meaning set forth in Section 4.4 (Defense of Third Party Claims).

"**Diligence Notice**" has the meaning set forth in Section 5.2 (Diligence).

"**Disclosing Party**" has the meaning set forth in Section 9.1.1 (Confidential Information).

"**Dispute**" has the meaning set forth in Section 10.2.1(b).

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

"**Enforcing Party**" has the meaning set forth in Section 4.3.3 (Progress Reports; Participation).

"**Exclusivity Period**" has the meaning set forth in Section 2.3 (Right of First Negotiation).

"**Exploit**" means to research, develop, improve, make, use, offer for sale, sell, import, export or otherwise exploit, or transfer possession of or title in, a product. Cognates of the word "**Exploit**" shall have correlative meanings.

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

"**Field**" means any and all human and veterinary uses.

"**First Commercial Sale**" means, with respect to any Product in any country, the first sale to a Third Party for end use or consumption of such Product in such country after a BLA has been granted in such country for such Product.

"**Framework Patents**" means any Patent Right (other than a Licensed Patent) Controlled by Amgen or its Affiliates as of the Effective Date that: (i) has a claim that is infringed by the amino acid sequence of a Product, (ii) has a claim that is infringed by a nucleic acid sequence that encodes the amino acid sequence of a Product, or (iii) has a claim that claims Licensed Know How.

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"**FTE**" means the equivalent of the work of one employee full time for one year consisting of at least a total of [*] weeks or [*] hours per year (excluding vacations and holidays). No one person shall be permitted to account for more than one FTE.

"**FTE Rate**" means $[*] per FTE per year.

"**GAAP**" means the then-current generally accepted accounting principles in the United States as established by the Financial Accounting Standards Board or any successor entity or other entity generally recognized as having the right to establish such principles in the United States, in each case consistently applied. Unless otherwise defined or stated herein, financial terms shall be calculated under GAAP.

"**Governmental Authority**" means any court, agency, department, authority or other instrumentality of any national, state, county, city or other political subdivision.

"**IND**" means an Investigational New Drug Application filed with the FDA for human clinical testing of a drug or any foreign equivalent thereof.

"**Indication**" means the disease or condition for which an IND has been filed.

"**Infringe**" or "**Infringement**" means any infringement as determined by Law, including, without limitation, direct infringement, contributory infringement or any inducement to infringe.

"**Issuing Party**" has the meaning set forth in Section 9.2.2 (Review).

"**Know-How**" means techniques, technology, trade secrets, inventions (whether patentable or not), methods, know-how, data and results (including pharmacological, toxicological and clinical data and results), analytical and quality control data and results, regulatory documents, and other information, compositions of matter, cells, cell lines, assays, animal models and other physical, biological, or chemical material.

"**Law**" means, individually and collectively, any and all laws, ordinances, rules, directives, administrative circulars and regulations of any kind whatsoever of any Governmental Authority within the applicable jurisdiction.

"**Licensed Know-How**" means all Know-How that both (a) is Controlled by Amgen and (b) was actually used by Amgen in its development of the Products at such time as Amgen last actively developed the applicable Product prior to the Closing Date, including the Know-How set forth on the Licensed Know-How Schedule. [*]

"**Licensed Materials**" means those certain materials set forth on the Licensed Materials Schedule.

"**Licensed Patents**" means the Patent Rights set forth on the Licensed Patents Schedule.

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"**Losses**" has the meaning set forth in Section 8.1.1 (By Amgen).

"**Marketing Approval**" means all approvals, licenses, registrations or authorizations of the Regulatory Authority in a country, necessary for the manufacture, use, storage, import, marketing and sale of a Product in such country.

"**Milestone Events**" has the meaning set forth in Section 3.3 (Milestone Payments).

"**Milestone Payments**" has the meaning set forth in Section 3.3 (Milestone Payments).

"**Negotiation Notice**" has the meaning set forth in Section 2.3 (Right of First Negotiation).

"**Net Sales**" means, with respect to any Product, the gross sales price of such Product sold by Company, its Affiliates or Sublicensee(s) (the "**Selling Party**") for the sale of such Product to Third Parties, less:

(a) non-recoverable sales taxes, excise taxes, use taxes, value-added tax, and duties paid by the Selling Party in relation to Product(s) and any other equivalent governmental charges imposed upon the importation, use or sale of Product(s) (excluding taxes when assessed on income derived from sales);

(b) credits and allowances (actually allowed or paid) for defective or returned Product(s), including allowances for spoiled, damaged, out-dated, rejected, returned, withdrawn or recalled Product(s);

(c) reasonable fees paid to wholesalers, distributors, selling agents (excluding any sales representatives of a Selling Party), group purchasing organizations, Third Party payors, other contractees and managed care entities;

(d) reasonable transportation charges relating to Product(s), including handling charges and insurance premiums relating thereto to the extent included as a separate entry on the invoice for such product (*provided* that [*] items in this clause (d) shall [*] for the relevant period);

(e) retroactive price reductions actually granted to the Third Party applicable to sales of such product;

(f) trade, cash, prompt payment and/or quantity discounts, actually allowed and taken directly by the Third Party, and mandated discounts; and

(g) refunds, rebates, chargebacks and other allowances or payments to Governmental Authorities.

Net Sales shall be determined from books and records maintained in accordance with GAAP, consistently applied throughout the organization and across all products of the entity whose sales of Products are giving rise to Net Sales.

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Where a Product is sold in combination with other therapeutically active ingredients, the Net Sales applicable to such transaction shall be calculated by multiplying the total Net Sales of such combined product by the fraction A/(A+B), where A is the actual price of the Product in the same dosage amount or quantities in the applicable country during the applicable quarter if sold separately, and B is the sum of the actual prices of all other therapeutics with which the Product is combined, in the same dosage amount or quantities in the applicable country during the applicable quarter if sold separately. If A or B cannot be determined because values for the Product or other therapeutics with which the Product is combined are not available separately in a particular country, then Amgen and Company shall discuss an appropriate allocation for the fair market value of the Product and other therapeutics with which the Product is combined to mutually determine Net Sales for the relevant transactions based on an equitable method of determining the same that takes into account, in the Territory, variations in potency, the relative contribution of each therapeutically active ingredient, and relative value to the end user of each therapeutically active ingredient.

Net Sales shall also include, with respect to any Product sold or otherwise disposed of for any consideration other than an exclusively monetary consideration on bona fide arm's length terms, an amount equal to the average sales price for such Product having the same dosage form and strength during the applicable reporting period in the country where such sale or other disposal occurred when such Product is sold alone and not with other products, or if such Product is not sold alone in such country during the applicable reporting period, then an amount equal to the average sales price during the applicable reporting period generally achieved for such Product having the same dosage form and strength in the rest of the Territory.

Sales of Product(s) between or among Company and its Affiliates or Sublicensees shall be excluded from the computation of Net Sales and no payments shall be payable on such sales except where such Affiliates or Sublicensees are end users.

"**Out-License**" has the meaning set forth in Section 2.3 (Right of First Negotiation).

"**Party**" has the meaning set forth in the Preamble.

"**Patent Rights**" means any provisional and non-provisional patents and patent applications, together with all additions, divisions, continuations, continuations-in-part, substitutions, reissues, re-examinations, issued patents, substitutes, foreign counterparts, extensions, registrations, patent term extensions, supplemental protection certificates, renewals and the like with respect to any of the foregoing.

"**Permitted CMO**" means (a) a Third Party commercial manufacturing organization identified on the attached Permitted CMO Schedule (and all such Third Party's Affiliates), as such schedule may be updated by mutual written agreement by the Parties from time to time or (b) any other party deemed to be a Permitted CMO pursuant to the terms of Section 2.4.2.

"**Permitted CMO Agreement**" has the meaning set forth in Section 2.4.2(a) (Transfer of Licensed Know-How and Licensed Materials).

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"**Permitted CMO Request**" has the meaning set forth in Section 2.4.2(d) (Transfer of Licensed Know-How and Licensed Materials).

"**Person**" means any corporation, limited or general partnership, limited liability company, joint venture, trust, unincorporated association, governmental body, authority, bureau or agency, any other entity or body, or an individual.

"**Phase 1 Clinical Trial**" means any human clinical trial of a Product that satisfies the requirements of 21 C.F.R. § 312.21(a), or its successor regulation, or its non-United States equivalents, including the portion of a combination Phase 1 Clinical Trial and Phase 2 Clinical Trial that is the Phase 1 component, in accordance with the applicable protocol and as reasonably designated by Company.

"**Phase 2 Clinical Trial**" means any human clinical trial of a Product that satisfies the requirements of 21 C.F.R. § 312.21(b), or its successor regulation, or its non-United States equivalents, including the portion of a combination Phase 2 Clinical Trial and Phase 3 Clinical Trial that is the Phase 2 component, in accordance with the applicable protocol and as reasonably designated by Company.

"**Phase 3 Clinical Trial**" means any human clinical trial of a Product that satisfies the requirements of 21 C.F.R. § 312.21(c), or its successor regulation, or its non-United States equivalents, including the portion of a combination Phase 2 Clinical Trial and Phase 3 Clinical Trial that is the Phase 3 component, in accordance with the applicable protocol and as reasonably designated by Company.

"**Pivotal Trial**" means (a) a Phase 2 Clinical Trial, or a combination Phase 2 Clinical Trial and Phase 3 Clinical Trial, that (taken together with any other trials completed prior to or concurrently with such trial) is intended to support Marketing Approval for a Product by the relevant Regulatory Authority in the indication under study, or (b) a Phase 3 Clinical Trial.

"**Pre-Existing Agreements**" means those agreements listed on the Pre-Existing Agreements Schedule.

"**Product(s)**" has the meaning set forth in the Recitals.

"**Quality Agreement**" means that certain quality agreement, by and between the Parties, to be entered into as of the Closing Date and to be attached substantially in the form of hereto as the Quality Agreement Schedule.

"**Receiving Party**" has the meaning set forth in Section 9.1.1 (Confidential Information).

"**Regulatory Authority**" means any Governmental Authority or other authority responsible for granting Marketing Approvals for Products, including the FDA, EMA and any corresponding national or regional regulatory authorities.

"**Regulatory Change**" has the meaning set forth in Section 5.2 (Diligence).

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"**Regulatory Exclusivity**" means, with respect to a Product in a country, any exclusive marketing rights or data exclusivity rights conferred by the applicable Regulatory Authority in such country with respect to the Product, other than a Patent Right.

"**Regulatory Filing**" means any filing with any Governmental Authority with respect to the research, development, manufacture, distribution, pricing, reimbursement, marketing or sale of a Product.

"**Release**" has the meaning set forth in Section 9.2.2 (Review).

"**Reviewing Party**" has the meaning set forth in Section 9.2.2 (Review).

"**Royalty Term**" has the meaning set forth in Section 3.4 (Royalties).

"**Sale Transaction**" has the meaning set forth in Section 11.8 (Successors and Assigns).

"**Selling Party**" has the meaning set forth in the definition of "Net Sales".

"**Signing Date**" has the meaning set forth in the Preamble.

"**Specified Diligence Failure**" has the meaning set forth in Section 5.2 (Diligence).

"**Sublicensee(s)**" means any Person other than an Affiliate of Company to which Company has granted a sublicense under this Agreement.

"**Summary**" has the meaning set forth in Section 2.3 (Right of First Negotiation).

"**Term**" has the meaning set forth in Section 10.1 (Term).

"**Terminated Product**" means (a) in the event of a termination of this Agreement by Company pursuant to Section 10.3.2 (Discretionary Termination), the applicable terminated Products and (b) in the event of any other termination of this Agreement, all Products.

"**Territory**" means the entire world.

"**Third Party**" means a Person other than (a) Amgen or any of its Affiliates and (b) Company or any of its Affiliates.

"**Third Party Acquirer**" has the meaning set forth in Section 11.9 (Sale Transaction or Amgen Acquisition).

"**Transaction Notice**" has the meaning set forth in Section 2.3 (Right of First Negotiation).

"**United States**" or "**U.S.**" means the United States of America (including the District of Columbia).

"**Valid Claim**" means a claim of any issued and unexpired patent or patent application within the Licensed Patents and that has not been held invalid or unenforceable by a final decision of a

court or governmental agency of competent jurisdiction, which decision can no longer be appealed or was not appealed within the time allowed; *provided* that if a claim of a pending patent application within the Licensed Patents [*], such claim shall not constitute a Valid Claim for the purposes of this Agreement [*].

ARTICLE 2. LICENSE GRANT; CLOSING

Section 2.1 Grant. Subject to the terms and conditions of this Agreement, commencing on the Closing Date, Amgen hereby grants to Company (a) an exclusive (even as to Amgen and its Affiliates), royalty bearing, sublicenseable (but only in accordance with Section 2.2 (Sublicenses) and Section 2.3 (Right of First Negotiation)), license under the Licensed Patents, (b) a non-exclusive, royalty bearing, sublicenseable (but only in accordance with Section 2.2 (Sublicenses) and Section 2.3 (Right of First Negotiation)) license under the Licensed Know-How, and (c) an exclusive (even as to Amgen and its Affiliates) license and right of reference, with the right to grant sublicenses and further rights of reference (but only in accordance with Section 2.2 (Sublicenses) and Section 2.3 (Right of First Negotiation)), under any existing Regulatory Filings that Amgen or any of its Affiliates Controls with respect to the Products; in each case, to Exploit Product(s) in the Field in the Territory during the Term. Notwithstanding the foregoing, the Licensed Know-How shall be sublicenseable only in connection with the rights of Company with respect to Products and not with respect to any other products or services.

2.1.1 Covenant Not to Sue. In addition to the licenses set forth in this Section 2.1 (Grant) above, commencing on the Closing Date, Amgen hereby covenants not to sue Company, its Affiliates or any Sublicensee under the Framework Patents with respect to the Exploitation of Products in the Field in the Territory. Subject to Section 11.8 (Successors and Assigns), the Company may transfer this Covenant Not to Sue. Amgen shall require any Amgen successor in interest to the Framework Patents to also covenant not to sue Company, its Affiliates or any Sublicensee under the Framework Patents with respect to the Exploitation of Products in the Field in the Territory. Should Amgen fail to secure such a covenant from a successor in interest, then immediately prior to the transfer of the Framework Patents to the successor in interest, Amgen will be deemed to have granted to Company a non-exclusive, fully paid-up, royalty-free, sublicenseable license under the Framework Patents to Exploit Product(s) in the Field in the Territory during the Term.

Section 2.2 Sublicenses. Subject to compliance by Company with its obligations under Section 2.3 (Right of First Negotiation) below, commencing on the Closing Date, the licenses granted in Section 2.1 (Grant) (including, if applicable, in the last sentence of Section 2.1.1 (Covenant Not to Sue)) may be sublicensed, in full or in part, by Company to its Affiliates and Third Parties (with the right to sublicense through multiple tiers), *provided* that as a condition precedent to and requirement of any such sublicense:

(a) Any such permitted sublicense shall be in writing and shall be consistent with and subject to the terms and conditions of this Agreement;

(b) Company shall be responsible for any and all obligations of such Sublicensee as if such Sublicensee were "Company" hereunder; and

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(c) Any such Sublicensee shall agree in writing to be bound by the substantially similar obligations of Company hereunder that are relevant to the rights sublicensed by Company to Sublicensee under such sublicense agreement, including with respect to Article 9 (Confidentiality), and Sections 2.7 (Limited Exploitation Rights), 8.1 (Indemnity), 10.2.2 (Termination for IP Challenge), and 10.5 (Effects of Termination).

Company shall provide Amgen, within [*] days following execution of each sublicense, prompt written notice thereof (which notice shall include the name of the Sublicensee and the general scope of such sublicense). Thereafter, upon Amgen's reasonable request, Company shall provide to Amgen a copy of any such sublicense agreement executed by Company; *provided* that the financial terms (and any other terms Company is required to keep confidential) of any such sublicense agreement may be redacted to the extent not pertinent to an understanding of a Party's rights or obligations under this Agreement.

Section 2.3 Right of First Negotiation.

2.3.1 If Company seeks to grant a sublicense (an "**Out-License**") to a Third Party for development and/or commercialization of AMG 777 (or, to the extent Company has de-prioritized AMG 777, the backup Product thereto for which Company is actively seeking to fulfill its diligence obligation hereunder pursuant to Section 5.2 (Diligence)), then Company shall notify Amgen in advance in writing and provide a non-confidential summary of the Product that is the subject of the proposed sublicense, as well as the intended scope (which the Parties agree shall be initially for worldwide rights) of the Out-License (a "**Transaction Notice**"). If Amgen desires to evaluate such Out-License, then Amgen shall notify Company within [*] days of its receipt of the Transaction Notice (a "**Negotiation Notice**"). Promptly after Company's receipt of a Negotiation Notice, Company shall provide Amgen with a confidential summary of the Product Company is seeking to Out-License (a "**Summary**"), including existing material clinical and preclinical data, as well as such other information in Company's possession that Amgen may reasonably request, which Summary shall be deemed to be Confidential Information of Company under this Agreement. For [*] following Amgen's receipt of a Summary (the "**Exclusivity Period**"), Amgen shall have an exclusive right to negotiate an exclusive, royalty-bearing license to such Product from Company. If Amgen (i) does not deliver a Negotiation Notice to Company within the applicable [*] period after receipt of the Negotiation Notice, (ii) does not deliver to Company a written proposal for the terms of an Out-License to Amgen during the Exclusivity Period, or (iii) declines in writing the Out-License after review of the Summary, then Amgen shall be deemed to have waived its rights under this Section 2.3 (Right of First Negotiation) with respect to such Product. If Amgen and Company do not mutually agree on the terms of an Out-License for such Product to Amgen within the Exclusivity Period, Company shall be free to negotiate an Out-License for such Product with any Third Party, subject to the terms of Section 2.2 (Sublicenses) and Section 2.3.2. For clarity, an Out-License shall not include the grant of a sublicense to a contract manufacturer or a contract research organization for the purpose of manufacturing or developing Products for Company or to a Third Party distributor selling finished Product purchased from Company, and this Section 2.3 (Right of First Negotiation) shall not restrict Company in any manner with respect to such a sublicense.

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2.3.2 If Company's board of directors approves the initiation of a process for (i) a Sale Transaction or (ii) a response to an unsolicited offer for an Out-License, in each case related to Company's rights in AMG 777 (or, to the extent Company has de-prioritized AMG 777, the backup Product thereto for which Company is actively seeking to fulfill its diligence obligation hereunder pursuant to Section 5.2 (Diligence)), then Company shall notify Amgen concurrently with any other notifications required hereunder (*provided* that a signed letter sent via electronic or facsimile transmission shall qualify as such written notice) and provide the intended scope (i.e., field, territory and other relevant terms) of the Out-License and/or Sale Transaction.

2.3.3 Upon the Completion of an Initial Public Offering (as defined in the investor rights agreement to be entered into by the Parties) or a sale of all or substantially all of Company's assets or business, Amgen's rights under this Section 2.3 (Right of First Negotiation) shall terminate.

Section 2.4 Transfer of Licensed Know-How and Licensed Materials. Amgen shall transfer to Company (or, in the case of Amgen's transfer of the Amgen Cell Lines, to the Permitted CMO) the Licensed Know-How listed on the Licensed Know-How Schedule and the Licensed Materials listed on the Licensed Materials Schedule, in accordance with a schedule to be mutually agreed by the Parties (*provided* such transfer must be completed within [*] after the Closing Date), and provide limited consulting support, in accordance with this Section 2.4 (Transfer of Licensed Know-How and Licensed Materials). Following the Signing Date, the Parties will in good faith reasonably cooperate to review and, if necessary, update the Licensed Know-How and Licensed Materials Schedules to correct and/or supplement such Schedules (and, as necessary, timely deliver the relevant Licensed Know-How and Materials to the Company.

2.4.1 Amgen shall provide, at its expense, consulting support (not to exceed [*] in the aggregate) in connection with such transfer and the Exploitation of Products in the Territory during the [*] period after the Closing Date. If Company requires additional consulting support in excess of [*] in the aggregate or beyond such period after the Closing Date in connection with such transfer or the Exploitation of Products in the Territory, then Company may request such additional support in writing. Amgen shall notify Company within [*] after receipt of such request whether it, in its sole discretion, is willing to provide such additional consulting support, which support shall be at Company's expense, at the FTE Rate for the relevant Amgen employees.

2.4.2 With respect to Amgen's transfer of the Amgen Cell Lines, the Parties agree that the following procedures shall apply:

(a) Prior to such transfer, Company shall designate, and enter into a binding agreement with, one of the Permitted CMOs, which agreement shall provide for, among other things, (i) confidentiality and non-use provisions at least as protective as those set forth hereunder under Section 9.1 (Confidential Information) and (ii) such additional provisions as are required to comply with the manufacturing and other limitations set forth in this Section 2.4.2 (such agreement, the "**Permitted CMO Agreement**"). Upon Amgen's reasonable request, Company shall provide to Amgen a copy of any such Permitted CMO Agreement (including any material amendment thereto) executed by Company; *provided* that the financial terms (and any

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other terms Company is required to keep confidential) of any such agreement may be redacted to the extent not pertinent to Amgen's confirmation of the restrictive provisions set forth in this Section 2.4.2. Notwithstanding anything to the contrary, Company and Company's Sublicensees are deemed Permitted CMOs, and shall not be required to enter into a Permitted CMO Agreement prior to receiving the Amgen Cell Lines or conducting any manufacturing activities in connection therewith, and Amgen shall deliver such cell lines to Company and/or Company's Sublicensees within a reasonable time following Company's written request. For avoidance of doubt, if Company (itself, or through a third party, Affiliate, or Sublicensee) [*] (excluding any [*], but including any [*]) [*], such [*] shall [*], and the Permitted CMO restrictions set forth herein shall [*].

(b) Following Company's and such Permitted CMO's entry into the Permitted CMO Agreement, Amgen shall, at the direction of Company, transfer the Amgen Cell Lines to the Permitted CMO to generate the Products.

(c) Company agrees that it shall not, and it shall use its commercially reasonable efforts to cause the Permitted CMO not to: (i) reverse engineer or otherwise deconstruct the Amgen Cell Lines or the initial Amgen cell culture media provided therewith, or to determine or to seek to determine information (including, but not limited to, the gene or amino acid sequence) or characteristics regarding the Amgen Cell Lines or such media, other than as expressly required to manufacture the Products; (ii) clone, express, or otherwise produce any products or materials (including, without limitation, any progeny or derivatives thereof) fi-om the Amgen Cell Lines, other than as expressly permitted under this Agreement; (iii) notwithstanding anything to the contrary in Section 9.4.1 (Right to Publish), publish or otherwise publicly disclose the Amgen Cell Lines; or (iv) permit any non-controlled security access to the Amgen Cell Lines or otherwise transfer or provide any of the Amgen Cell Lines to a Third Party or any of its Affiliates, other than as expressly required to manufacture the Products.

(d) Upon a termination or expiration of the Permitted CMO Agreement (including as a result of the appointment, with prior written notice to Amgen, by Company of a replacement Permitted CMO), the Permitted CMO shall promptly return any remaining Amgen Cell Lines and related Licensed Know-How and Licensed Materials to Amgen. If, at any time, Company desires to add a new Third Party commercial manufacturer to the Permitted CMO Schedule, it shall notify Amgen in writing (a "**Permitted CMO Request**"), and Amgen shall have the right, for [*] after receipt of such Permitted CMO Request, to inspect, at a reasonable time and on a reasonable basis (at Amgen's cost), such manufacturer's facilities to confirm its ability to fully comply with the restrictive provisions set forth in this Section 2.4.2. If Amgen rejects a Permitted CMO Request pursuant to the foregoing, it will notify Company of the reason(s) for such rejection and provide reasonable detail regarding the actions Company (or the applicable Third Party commercial manufacturer) may take to remedy such reasons for rejection. If Amgen does not reject a Permitted CMO Request within the [*] notice period, the applicable Third Party shall be deemed a Permitted CMO.

(e) Notwithstanding anything to the contrary, if, outside the scope of this Agreement, Amgen allows any Third Party commercial manufacturer access to or use of the Amgen Cell Lines, such Third Party shall be deemed a Permitted CMO.

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2.4.3 Company acknowledges that any materials transferred by Amgen to Company (or the Permitted CMO) under this Agreement are experimental in nature and may have unknown characteristics and therefore agrees to use prudence and reasonable care in the use, handling, storage, transportation and disposition and containment of any such materials. Accordingly, no such materials shall be used in any human application, including any clinical trial.

Section 2.5 Intentionally omitted.

Section 2.6 No Other Rights. Each Party acknowledges that the rights and licenses granted under this Article 2 (License Grant) and elsewhere in this Agreement are limited to the scope expressly granted. Accordingly, except for the rights expressly granted under this Agreement, no right, title, or interest of any nature whatsoever is granted whether by implication, estoppel, reliance, or otherwise, by either Party to the other Party. All rights that are not specifically granted herein are reserved.

Section 2.7 Limited Exploitation Rights. Without limiting the provisions of Section 2.6 (No Other Rights), Company agrees (on behalf of itself and its Affiliates), and shall cause each of its Sublicensees to agree as a condition to the grant of a Sublicense, not to Exploit any Licensed Know-How or Licensed Patents in connection with any products or services other than Products.

ARTICLE 3. FEES, ROYALTIES AND PAYMENTS

Section 3.1 Intentionally omitted.

Section 3.2 Intentionally omitted.

Section 3.3 Milestone Payments. Company shall pay to Amgen certain milestone payments ("**Milestone Payments**") following the first occurrence of certain milestone events, as set forth in Section 1 of the Milestones and Royalties Schedule (the "**Milestone Events**"). Company shall pay to Amgen the applicable Milestone Payment within [*] after the occurrence of the applicable Milestone Event. Each Milestone Payment is payable only once; except as set forth in Section 1 of the Milestones and Royalties Schedule, no Milestone Payment shall be payable for subsequent or repeated achievements of such Milestone Event with one or more of the same or different Products. Each of the Milestone Payments shall be non-refundable and non-creditable. In the event that a Milestone Event relating to clinical development for a specific Product is achieved and payment that was due and payable with respect to the previous Milestone Event(s) for such Product has not been made by Company, then Company shall promptly pay Amgen such unpaid payment with respect to such previous Milestone Event(s) for such Product.

Section 3.4 Royalties. Company shall pay to Amgen on a calendar quarterly basis the tiered royalties set forth in Section 2 of the Milestones and Royalties Schedule on annual Net Sales of Products sold by a Selling Party during the applicable Royalty Term, subject to the applicable deductions set forth in the Milestones and Royalties Schedule. Any such payment obligations accrued during a calendar quarter shall be made within [*] after the end of each such calendar quarter. Company's obligation to pay royalties with respect to a Product in a particular country shall commence upon the First Commercial Sale of such Product in such country and shall expire on a country-by-country and Product-by-Product basis on the later of (a) the date on which the

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Exploitation of a Product is no longer Covered by a Valid Claim of a Licensed Patent in such country, (b) the loss of Regulatory Exclusivity for the Product in such country, and (c) the tenth (10th) anniversary of the First Commercial Sale of the Product in such country (the "**Royalty Term**").

Section 3.5 Intentionally omitted.

Section 3.6 Method of Payment; Royalty Reporting. Unless otherwise agreed by the Parties, all payments due from Company to Amgen under this Agreement shall be paid in U.S. Dollars by wire transfer or electronic funds transfer of immediately available funds to an account designated by Amgen. After the First Commercial Sale of the first Product and until expiration of the last Royalty Term, Company shall prepare and deliver to Amgen royalty reports of the sale of Products by the Selling Parties for each calendar quarter within [*] after the end of each such calendar quarter specifying in the aggregate and on a Product-by-Product and country-by-country basis: (a) total gross amounts for Products sold or otherwise disposed of by a Selling Party; (b) amounts deducted by category in accordance with the definition of "Net Sales" in Article 1 from gross amounts to calculate Net Sales; (c) Net Sales; and (d) royalties payable.

Section 3.7 Currency Conversion. In the case of sales outside the United States, payments received by Company shall be expressed in the U.S. Dollar equivalent calculated on a quarterly basis in the currency of the country of sale and converted to their U.S. Dollar equivalent using the average rate of exchange over the applicable calendar quarter to which the sales relate, in accordance with (a) the then-current standard methods of Company or the applicable Sublicensee, to the extent reasonable and consistently applied and (b) GAAP; *provided* that if, at such time, Company does not use a rate for converting into U.S. Dollar equivalents that is maintained in accordance with GAAP, then Company shall use a rate of exchange which corresponds to the rate of exchange for such currency reported in *The Wall Street Journal*, Internet U.S. Edition at www.wsj.com, as of the last day of the applicable reporting period (or, if unavailable on such date, the first date thereafter on which such rate is available). Company shall inform Amgen as to the specific exchange rate translation methodology used for a particular country or countries.

Section 3.8 Late Payments. In the event that any payment due hereunder that is not the subject of a good faith dispute is not made when due, the payment shall accrue interest beginning on the day following the due date thereof, calculated at the annual rate of the sum of (a) [*] plus (b) the prime interest rate quoted by *The Wall Street Journal*, Internet U.S. Edition at www.wsj.com on the date said payment is due, the interest being compounded on the last day of each calendar quarter; *provided* that in no event shall said annual interest rate exceed the maximum rate permitted by Law. Each such payment when made shall be accompanied by all interest so accrued. Said interest and the payment and acceptance thereof shall not negate or waive the right of any Party to seek any other remedy, legal or equitable, to which it may be entitled because of the delinquency of any payment including, but not limited to termination of this Agreement as set forth in Article 10 (Term and Termination).

Section 3.9 Records and Audits. Company shall keep complete and accurate records relating to the calculations of Net Sales generated in the then current calendar year and payments required under this Agreement, and during the preceding [*]. Amgen shall have the right, once

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annually at its own expense, to have a nationally recognized, independent, certified public accounting firm, selected by it and subject to Company's prior written acceptance (which shall not be unreasonably withheld), review any such records of Company and its Affiliates and Sublicensees (the "**Audited Party**") in the location(s) where such records are maintained by the Audited Party upon reasonable written notice (which shall be no less than [*] prior written notice) and during regular business hours and under obligations of strict confidence, for the sole purpose of verifying the basis and accuracy of payments made under Section 3.4 (Royalties) within the [*] period preceding the date of the request for review. No calendar year shall be subject to audit under this Section more than once. Company shall receive a copy of each such report concurrently with receipt by Amgen. Should such inspection lead to the discovery of a discrepancy to Amgen' s detriment, Company shall, within [*] after receipt of such report from the accounting firm, pay any undisputed amount of the discrepancy together with interest at the rate set forth in Section 3.8 (Late Payments). Amgen shall pay the full cost of the review unless the underpayment of amounts due to Amgen is greater than [*] of the amount due for the entire period being examined, in which case Company shall pay the cost charged by such accounting firm for such review. Should the audit lead to the discovery of a discrepancy to Company's detriment, Company may credit the amount of the discrepancy, without interest, against future payments payable to Amgen under this Agreement, and if there are no such payments payable, then Amgen shall pay to Company the amount of the discrepancy, without interest, within [*] after Amgen's receipt of the report.

Section 3.10 Taxes.

3.10.1 Sales Tax. Company is responsible for the payment of any state or local, sales or use, or similar fees or taxes arising as a result of the transfer of Licensed Materials by Amgen to Company pursuant to Section 2.4 (Transfer of Licensed Know-How and Licensed Materials), and Company shall remit such fees or taxes to Amgen, as the collection agent, upon invoice.

3.10.2 Withholding. In the event that any Law requires Company to withhold taxes with respect to any payment to be made by Company pursuant to this Agreement, Company shall notify Amgen of such withholding requirement prior to making the payment to Amgen and provide such assistance to Amgen, including the provision of such documentation as may be required by a tax authority, as may be reasonably necessary in Amgen's efforts to claim an exemption from or reduction of such taxes. Company shall, in accordance with such Law, withhold taxes from the amount due, remit such taxes to the appropriate tax authority, and furnish Amgen with proof of payment of such taxes within [*] following the payment. If taxes are paid to a tax authority, Company shall provide reasonable assistance to Amgen to obtain a refund of taxes withheld, or obtain a credit with respect to taxes paid.

ARTICLE 4. PATENT PROSECUTION, MAINTENANCE AND INFRINGEMENT

Section 4.1 Prosecution and Maintenance.

4.1.1 Company shall have the first right to file, prosecute and maintain all Patent Rights specified under Licensed Patents, in each case at Company's sole expense using outside counsel reasonably acceptable to Amgen. Company shall use Commercially Reasonable Efforts to prepare, file, prosecute, defend and maintain all such Patent Rights; *provided* that Company does

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not represent or warrant that any patent will issue or be granted based on patent applications contained in the Licensed Patents. Amgen shall reasonably cooperate with Company's requests for data, affidavits, and other information and assistance to support prosecution and maintenance of such Patent Rights; *provided* that Company shall reimburse Amgen for its reasonable documented out-of-pocket expenses with respect to such cooperation. Company shall, at least [*] prior to submission or within [*] of receipt, forward to Amgen copies of any significant office actions, communications, and correspondence relating to the Licensed Patents. Amgen shall have the right to comment on and to discuss such prosecution and maintenance activities with Company, and Company shall consider the same in good faith.

Section 4.2 Amgen Step-In Right. Notwithstanding the foregoing, if Company declines to file, prosecute or maintain any Patent Rights described in Section 4.1.1, elects to allow any Patent Rights described in Section 4.1.1 to lapse in any country, or elects to abandon any such Patent Rights (in each case solely to the extent contained in the Licensed Patents) before all appeals within the respective patent office have been exhausted (each, an "**Abandoned Patent Right**"), then:

(a) Company shall provide Amgen with reasonable notice of such decision so as to permit Amgen to decide whether to file, prosecute or maintain such Abandoned Patent Rights and to take any necessary action (which notice shall, in any event, be given no later than [*] prior to the next deadline for any action that may be taken with respect to such Abandoned Patent Right with the U.S. Patent & Trademark Office or any foreign patent office).

(b) Amgen, at Amgen's expense, may assume control of the filing, prosecution and/or maintenance of such Abandoned Patent Rights. The continued filing, prosecution or maintenance of such Abandoned Patent Rights shall be at Amgen's sole discretion.

(c) Amgen shall have the right to transfer the responsibility for such filing, prosecution and maintenance of such Abandoned Patent Rights to patent counsel (outside or internal) selected by Amgen.

(d) Company shall, at Amgen's reasonable request and expense, assist and cooperate in the filing, prosecution and maintenance of such Abandoned Patent Rights.

(e) In the event a patent issues with respect to any such Abandoned Patent Rights, Amgen shall provide reasonable notice to Company thereof and such Abandoned Patent Right shall be excluded from the license granted by Amgen to Company under Section 2.1 (Grant), unless Company (i) reimburses Amgen for its internal and external costs and expenses related to the prosecution and maintenance of such Abandoned Patent Right within [*] of issuance of any such patent and (ii) assumes, in writing, the responsibility for the continued prosecution and maintenance of such Patent Rights in accordance with the provisions of Section 4.1 (Prosecution and Maintenance).

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Section 4.3 Enforcement.

4.3.1 Company Enforcement. Each Party shall notify the other promptly in writing when any Infringement by a Third Party is uncovered or reasonably suspected. Company shall have the first right to enforce any patent within the Licensed Patents against any Infringement or alleged Infringement thereof, and in each case shall at all times keep Amgen informed as to the status thereof. Company may, at its own expense, institute suit against any such infringer or alleged infringer and control, defend and settle such suit in a manner consistent with the terms and provisions hereof, and recover any damages, awards or settlements resulting therefrom, subject to Section 4.5 (Recovery). Amgen shall reasonably cooperate in any such litigation at Company's expense; where necessary, Amgen shall join in, or be named as a necessary party to, such litigation. Company shall not enter into any settlement of any claim described in this Section 4.3.1 (Company Enforcement) that admits to the invalidity or unenforceability of the Licensed Patents, incurs any financial liability on the part of Amgen, requires an admission of liability, wrongdoing or fault on the part of Amgen, without Amgen's prior written consent, in each case, such consent not to be unreasonably withheld.

4.3.2 Amgen Enforcement. If Company elects not to take good faith steps to enforce any patent within the Licensed Patents described in Section 4.3.1 (Company Enforcement) with respect to an Infringement (or otherwise take good faith steps to resolve such Infringement) in a particular country within [*] of receiving notice that an Infringement exists in such country (provided the foregoing shall not limit Amgen's right to pursue equitable relief at any time in any court of competent jurisdiction in order to protect its rights in the Licensed Patents), then it shall so notify Amgen in writing, and upon receiving such notice, then Amgen may, in its sole judgment and at its own expense, take steps to enforce any such patent, including instituting suit against any such infringer or alleged infringer, and control, defend and settle such suit in a manner consistent with the terms and provisions hereof, and recover any damages, awards or settlements resulting therefrom, subject to Section 4.5 (Recovery). Company shall reasonably cooperate in any such litigation at Amgen's expense; where necessary, Company shall join in, or be named as a necessary party to, such litigation. Amgen shall not enter into any settlement of any claim described in this Section 4.3.2 that admits to the invalidity or unenforceability of the Licensed Patents, incurs any financial liability on the part of Company or requires an admission of liability, wrongdoing or fault on the part of Company without Company's prior written consent, in each case, such consent not to be unreasonably withheld.

4.3.3 Progress Reports; Participation. The Party initiating or defending any enforcement action described in this Section 4.3 (Enforcement) (the "**Enforcing Party**") shall keep the other Party reasonably informed of the progress of any such enforcement action, and such other Party shall have the individual right to participate with counsel of its own choice at its own expense. The selection of such counsel will be subject to the Enforcing Party's approval (which shall not be unreasonably withheld).

Section 4.4 Defense of Third Party Claims. If either (a) any Product Exploited by or under authority of Company becomes the subject of a Third Party's claim or assertion of Infringement of a patent relating to the manufacture, use, sale, offer for sale or importation of such Product in the Field in the Territory, or (b) a declaratory judgment action is brought naming either Party as a defendant and alleging invalidity or unenforceability of any of the Licensed Patents, the Party first having notice of the claim or assertion shall promptly notify the other Party, and the Parties shall promptly confer to consider the claim or assertion and the appropriate course of action. Unless the Parties otherwise agree in writing, each Party shall have the right to defend itself

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against a suit that names it as a defendant (the "**Defending Party**"). Neither Party shall enter into any settlement of any claim described in this Section 4.4 that admits to the invalidity or unenforceability of the Licensed Patents, incurs any financial liability on the part of the other Party, or requires an admission of liability, wrongdoing or fault on the part of the other Party, without such other Party's prior written consent, in each case, such consent not to be unreasonably withheld. In any event, the other Party shall reasonably assist the Defending Party and cooperate in any such litigation at the Defending Party's request and expense.

Section 4.5 Recovery. Except as otherwise provided, the costs and expenses of the Party bringing suit under Section 4.3 (Enforcement) shall be borne by such Party, and any damages, settlements or other monetary awards recovered shall be shared as follows: (i) the amount of such recovery actually received by the Party controlling such action shall first be applied to the out-of-pocket costs of each Party in connection with such action; and then (ii) the remainder of the recovery shall be shared between the Parties as follows:

(a) If Company is the Enforcing Party, as if such recovery were Net Sales under this Agreement and Company shall pay to Amgen a portion of such Net Sales equal to the royalties calculated and payable with respect to the applicable Product under Section 3.4 (Royalties); and

(b) If Amgen is the Enforcing Party, [*] to Amgen, and [*] to Company.

Section 4.6 Patent Term Extensions and Filings for Regulatory Exclusivity Periods. Company shall advise Amgen in advance when it is considering any patent term extension or supplementary protection certificates or their equivalents for the Licensed Patents. With respect to any patent listings required for any Regulatory Exclusivity for Products in the Territory, the Parties shall mutually agree on which Licensed Patents to list.

Section 4.7 Patent Marking. Company shall mark, and shall cause all other Selling Parties to mark, Products with all Licensed Patents in accordance with applicable Law, which marking obligation shall continue for as long as (and only for as long as) required under applicable Law.

ARTICLE 5. OBLIGATIONS OF THE PARTIES

Section 5.1 Responsibility. Following the Closing Date and at all times during the Term (except as expressly stated otherwise herein), Company shall be responsible for, and shall bear all costs associated with, the research, development and commercialization of the Product(s) in the Territory, including regulatory, pharmacovigilance, manufacturing, distribution, marketing and sales activities. Subject to Company's obligations hereunder, all decisions concerning the development, marketing and sales of Product(s) in the Territory, including the clinical and regulatory strategy, design, sale, price and promotion of Product(s) covered under this Agreement, shall be within the sole discretion of Company.

Section 5.2 Diligence. Company shall (directly and/or through one or more Affiliates and/or Sublicensees or subcontractors) use Commercially Reasonable Efforts to develop and commercialize the Products in the Territory, [*]. The foregoing shall include use of Commercially Reasonable Efforts (directly and/or through one or more Affiliates and/or Sublicensees) with respect to [*]. In addition to the obligations of Company to use

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Commercially Reasonably Efforts, if Company, its Affiliates and/or their respective Sublicensees have not [*], Company shall promptly (but in no event later than [*] after each such applicable date) notify Amgen in writing of such failure to achieve such event (a "**Specified Diligence Failure**") in a timely manner (the "**Diligence Notice**"); *provided* that, if Company either (A) fails to timely [*] despite its good faith efforts to do so or (B) has a Specified Diligence Failure as a result of [*] as required under [*], then such diligence deadline shall be equitably extended to account for [*] to comply therewith (*provided*, in the case of a failure under clause (A), such equitable extension shall [*]). Company will notify Amgen if such an equitable extension is necessary, and will provide Amgen with a good faith, non-binding estimate of the expected duration of such extension. Notwithstanding anything to the contrary, Amgen shall have the right to terminate this Agreement for a Specified Diligence Failure by providing [*] written notice to Company, *provided* such Specific Diligence Failure is not cured during such notice period. Company shall notify Amgen immediately upon obtaining Marketing Approval of each Product in each country.

Section 5.3 Reports. On January 15 and July 15 of each year, Company shall submit to Amgen a report summarizing in reasonable detail, on a Product-by-Product basis, activities related to the Exploitation of Products that Company or any of its Affiliates has performed, or caused to be performed, during the preceding six (6)-month period, and future activities related to the Exploitation of Products it then-currently expects to initiate during the following six (6)-month period.

Section 5.4 AMG 434 Quality Agreement. On the Closing Date, the Parties shall enter into the Quality Agreement with respect to the AMG 434 drug substance intermediate being provided by Amgen to Company as part of the Licensed Materials hereunder.

Section 5.5 Pre-Existing Agreements. Promptly after the Closing Date, Amgen shall assign the Pre-Existing Agreements to Company, to the extent it has the right under such agreement(s) to do so (and will use commercially reasonable efforts to obtain any required consents). Until the effective date of such assignment or sublicense, as applicable, (a) Company agrees to perform, or assist Amgen in performing, Amgen's obligations under such agreement, and (b) Amgen agrees to use reasonable efforts to provide Company with any rights Amgen receives under such agreement and sublicense, as applicable.

Section 5.6 Company Location. Within sixty (60) days following the Closing Date, Company, Pinta Biosciences, Inc. or Nina Biosciences, Inc. (either alone or together) shall establish facilities in or around Thousand Oaks, California (the "**Thousand Oaks Facilities**"). At least one of Company, Pinta Biosciences, Inc., or Nina Biosciences, Inc. shall be obligated to maintain such Thousand Oaks Facilities until the earliest of (a) two (2) years following the date of such establishment, (b) the end of the Term or (c) a Sale Transaction of Company. Promptly after the Closing Date, Amgen and Company shall work together to mutually identify appropriate personnel candidates to develop and commercialize the Products in the Territory. Company shall use commercially reasonable efforts to hire and retain such candidates.

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ARTICLE 6. INTENTIONALLY OMITTED.

ARTICLE 7. REPRESENTATIONS AND COVENANTS

Section 7.1 Mutual Warranties. Each of Amgen and Company represents and warrants that:

(a) it is duly organized and validly existing under the Law of the jurisdiction of its incorporation, and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof;

(b) it is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder, and the individual executing this Agreement on its behalf has been duly authorized to do so by all requisite corporate action; and

(c) this Agreement is legally binding upon it and enforceable in accordance with its terms. The execution, delivery and performance of this Agreement by it 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 applicable Law.

Section 7.2 Additional Amgen Warranties. Amgen warrants to Company that:

(a) As of the Signing Date, Amgen Controls the Licensed Patents and the Licensed Know-How listed on the Licensed Know-How Schedule, and is entitled to grant the licenses specified herein. Amgen has not caused any Patent Right included in the Licensed Patents to be subject to any liens or encumbrances and Amgen has not granted to any Third Party any rights or licenses under such Patent Rights or Licensed Know-How that would conflict with the licenses granted to Company hereunder. None of the Licensed Patents are in-licensed by Amgen;

(b) As of the Signing Date, Amgen has no knowledge of any claim or litigation that has been brought or threatened in writing by any Third Party alleging that (i) the Licensed Patents are invalid or unenforceable or (ii) the manufacture, sale, offer for sale or importation of the Products in the Field in the Territory infringes or misappropriates any patents or other intellectual property rights of any Third Party;

(c) As of the Signing Date, except as set forth on the Disclosure Schedule, no patent application or registration within the Licensed Patents is the subject of any pending interference, opposition, cancellation or patent protest pursuant to 37 C.F.R. § 1.291;

(d) Amgen has made available to Company true and correct copies of the following: (i) all material Regulatory Filings for the Territory; (ii) all material correspondence with Governmental Authorities with respect to such Regulatory Filings; (iii) all minutes of any material meetings, telephone conferences or discussions with Governmental Authorities with respect to such Regulatory Filings; and (iv) all final clinical trial reports, in each case with respect to the Products and to the extent in existence as of the Signing Date;

(e) Amgen is the owner of each such Regulatory Filing in the Field in the Territory;

(f) Intentionally omitted;

(g) As of the Signing Date, the copy each Pre-Existing Agreement disclosed to Company prior to the Signing Date is, but for the redactions contained therein, a true and complete copy. Amgen further represents and warrants that Company will not be bound by any provision that is redacted from such copies of any Pre-Existing Agreement; and

(h) As of the Signing Date, Amgen has no knowledge that the manufacture of Products using the Amgen Cell Lines provided under this Agreement would infringe any patents of any Third Party in a manner that would reasonably be expected to have a material adverse effect on Company's ability to Commercialize the Products on or after January 1, 2019.

Section 7.3 Disclaimer. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS ARTICLE 7 (REPRESENTATIONS), NEITHER PARTY MAKES ANY REPRESENTATIONS OR EXTENDS ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, QUALITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR VALIDITY OF PATENT CLAIMS. NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS A REPRESENTATION MADE OR WARRANTY GIVEN BY EITHER PARTY THAT EITHER PARTY WILL BE SUCCESSFUL IN OBTAINING ANY PATENT RIGHTS, OR THAT ANY PATENTS WILL ISSUE BASED ON A PENDING APPLICATION. WITHOUT LIMITING THE RESPECTIVE RIGHTS AND OBLIGATIONS OF THE PARTIES EXPRESSLY SET FORTH HEREIN, EACH PARTY SPECIFICALLY DISCLAIMS ANY GUARANTEE THAT THE PRODUCTS WILL BE SUCCESSFUL, IN WHOLE OR IN PART.

Section 7.4 Company Covenants. Company covenants to Amgen that:

(a) it will conduct, and will cause its Affiliates and contractors to conduct, all preclinical and clinical studies for Products and manufacturing of Products, in accordance with (i) all U.S. Laws and the Laws of the country in which such clinical studies are conducted, (ii) the known or published standards of the FDA and the Regulatory Authority in such country, and (iii) the scientific standards applicable to the conduct of such studies and activities in the United States and in such country including current good laboratory practice, current good clinical practice and current good manufacturing practice. Neither Company, nor any officer, employee or agent of Company, will make an untrue statement of a material fact to any Regulatory Authority with respect to Products (whether in any submission to such Regulatory Authority or otherwise), and none of the foregoing will knowingly fail to disclose a material fact required to be disclosed to any Regulatory Authority with respect to Products;

(b) it will, and will cause its Affiliates and contractors to, comply with all Law with respect to the commercialization of Products;

(c) it will not knowingly employ any personnel or knowingly use a contractor or consultant that has been debarred by the FDA (or subject to a similar sanction of any other Regulatory Authority), or that is subject of an FDA debarment investigation or proceeding (or similar proceeding of any other Regulatory Authority);

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(d) it shall comply with all (i) U.S. Laws prohibiting the re-export, directly or indirectly, of certain controlled U.S.-origin items without a license to parties located in certain countries or appearing on certain U.S. Government lists of restricted parties; (ii) U.S. Laws prohibiting participation in non-U.S. boycotts that the United States does not support; and (iii) U.S. Laws prohibiting the sale of products to parties from any country subject to U.S. economic sanctions or who are identified on related U.S. Government lists of restricted parties.

ARTICLE 8. INDEMNIFICATION

Section 8.1 Indemnity.

8.1.1 By Amgen. Amgen agrees to defend Company and its (and its Affiliates') directors, officers, employees and agents (the "**Company Indemnified Parties**") at Amgen's cost and expense, and will indemnify and hold Company and the other Company Indemnified Parties harmless from and against any claims, losses, costs, damages, fees or expenses (including legal fees and expenses) (collectively, "**Losses**") to the extent resulting from any Third Party claim (including product liability claims) arising out of or otherwise relating to (a) the gross negligence or willful misconduct of Amgen, or (b) the material breach of this Agreement or the representations and warranties made hereunder by Amgen; except, in each case, to the extent such Losses result from clause (a), (b), or (c) of Section 8.1.2 (By Company). In the event of any such claim against the Company Indemnified Parties by a Third Party, the foregoing indemnity obligations shall be conditioned upon (x) Company promptly notifying Amgen in writing of the claim, (y) Company granting Amgen sole management and control, at Amgen's sole expense, of the defense of the claim and/or its settlement (*provided* that Amgen shall not settle any such claim without the prior written consent of Company if such settlement does not include a complete release from liability or if such settlement would involve undertaking an obligation (including the payment of money by a Company Indemnified Party), would bind or impair a Company Indemnified Party, or includes any admission of wrongdoing or that any intellectual property or proprietary right of Company is invalid or unenforceable), and (z) at Amgen's expense, the Company Indemnified Parties cooperating with Amgen; *provided* that in the case of (x) and (z) any failure or delay in such notice or cooperation shall not excuse any obligations of Amgen except to the extent Amgen is actually prejudiced thereby. The Company Indemnified Parties may, at their option and expense, be represented in any such action or proceeding by counsel of their own choosing.

8.1.2 By Company. Company agrees to defend Amgen and its (and its Affiliates') directors, officers, employees and agents (the "**Amgen Indemnified Parties**") at Company's cost and expense, and will indemnify and hold Amgen and the other Amgen Indemnified Parties harmless from and against any Losses resulting from any Third Party claim (including product liability claims) to the extent arising out of or otherwise relating to (a) the gross negligence or willful misconduct of Company, its Affiliates, or their respective Sublicensees, (b) the material breach of this Agreement or the representations, warranties and covenants made hereunder by Company, or (c) the Exploitation of any Product by or on behalf of Company, its Affiliates, or their respective Sublicensees (including from product liability and intellectual property infringement claims); except, in each case, to the extent such Losses result from clause (a) or (b) of Section 8.1.1 (By Amgen). In the event of any such claim against the Amgen Indemnified

Parties by a Third Party, the foregoing indemnity obligations shall be conditioned upon (x) Amgen promptly notifying Company in writing of the claim, (y) Amgen granting Company sole management and control, at Company's sole expense, of the defense of the claim and/or its settlement (*provided* that Company shall not settle any such claim without the prior written consent of Amgen if such settlement does not include a complete release from liability or if such settlement would involve undertaking an obligation (including the payment of money by an Amgen Indemnified Party), would bind or impair an Amgen Indemnified Party, or includes any admission of wrongdoing or that any intellectual property or proprietary right of Amgen is invalid or unenforceable) and (z) at Company's expense, the Amgen Indemnified Parties cooperating with Company; *provided* that in the case of (x) and (z) any failure or delay in such notice or cooperation shall not excuse any obligations of Company except to the extent Company is actually prejudiced thereby. The Amgen Indemnified Parties may, at their option and expense, be represented in any such action or proceeding by counsel of their own choosing.

Section 8.2 LIMITATION OF DAMAGES. IN NO EVENT SHALL EITHER PARTY BE LIABLE HEREUNDER TO THE OTHER PARTY FOR ANY PUNITIVE, RELIANCE, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOST REVENUE, LOST PROFITS, OR LOST SAVINGS) HOWEVER CAUSED AND UNDER ANY THEORY, EVEN IF IT HAS NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. THE LIMITATIONS SET FORTH IN THIS SECTION 8.2 (LIMITATION OF DAMAGES) SHALL NOT APPLY WITH RESPECT TO (A) ANY BREACH OF ARTICLE 9 (CONFIDENTIALITY) OR (B) THE INTENTIONAL MISCONDUCT OF A PARTY. NOTHING IN THIS SECTION 8.2 (LIMITATION OF DAMAGES) IS INTENDED TO LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF A PARTY UNDER THIS ARTICLE 8 (INDEMNIFICATION) WITH RESPECT TO ANY DAMAGES PAID BY THE OTHER PARTY TO A THIRD PARTY IN CONNECTION WITH A THIRD-PARTY CLAIM.

Section 8.3 Insurance. At least [*] prior to [*], Company shall at its own expense procure and maintain during the Term (and for [*] thereafter) [*] insurance coverage adequate to cover its obligations hereunder and which is/are consistent with normal business practices of prudent pharmaceutical companies. Additionally, at least [*] prior to [*], Company shall at its own expense procure and maintain during the Term (and for [*] thereafter) [*] insurance coverage adequate to cover its obligations hereunder and which is consistent with normal business practices of prudent pharmaceutical companies. Each insurance policy required by and procured by Company under this Section 8.3 (Insurance) shall [*]. Such insurance shall not be construed to create a limit of Company's liability with respect to its indemnification obligations under this Article 8 (Indemnification). Company shall provide Amgen with a certificate of insurance or other evidence of such insurance, upon request. Company shall provide Amgen with written notice at least [*] prior to the cancellation, non-renewal or a material change of or in such insurance which materially adversely affects the rights of Amgen hereunder, and [*] prior written notice of cancellation for non-payment of premiums. Company's insurance hereunder shall be primary with respect to the obligations for which Company is liable hereunder.

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ARTICLE 9. CONFIDENTIALITY

Section 9.1 Confidential Information.

9.1.1 Confidential Information. Each Party ("**Disclosing Party**") may disclose to the other Party ("**Receiving Party**"), and Receiving Party may acquire during the course and conduct of activities under this Agreement, certain proprietary or confidential information of Disclosing Party in connection with this Agreement. The term "**Confidential Information**" means (a) all Licensed Know-How, (b) all Licensed Materials, and (c) all ideas and information of any kind, whether in written, oral, graphical, machine-readable or other form, whether or not marked as confidential or proprietary, which are transferred, disclosed or made available by Disclosing Party or at the request of Receiving Party. During the Term, Amgen shall keep completely confidential all Licensed Know-How and Licensed Materials to the extent disclosure of such Confidential Information would negatively impact in any material way the Exploitation of the Products in the Territory by Company or its Affiliates or Sublicensees. For clarity, any modifications, improvements, enhancements, derivatives, or extracts of or related to the Licensed Know-How and Licensed Materials conceived or reduced to practice by or on behalf of Company, its Affiliates, or Sublicensees shall be considered Company's Confidential Information.

9.1.2 Restrictions. During the Term and for [*] thereafter, Receiving Party shall keep completely confidential all Disclosing Party's Confidential Information. Receiving Party shall not use Disclosing Party's Confidential Information except to the extent necessary to perform its obligations and exercise its rights under this Agreement. Receiving Party has the right to disclose Disclosing Party's Confidential Information without Disclosing Party's prior written consent, to the extent and only to the extent reasonably necessary, to Receiving Party's Affiliates and their employees, subcontractors, consultants or agents who have a need to know such Confidential Information in order to perform its obligations and exercise its rights under this Agreement and who are required to comply with the restrictions on use and disclosure in this Section 9.1.2 (Restrictions). Receiving Party shall use diligent efforts to cause those entities and persons to comply with the restrictions on use and disclosure in this Section 9.1.2 (Restrictions). Receiving Party assumes responsibility for those entities and persons maintaining Disclosing Party's Confidential Information in confidence and using same only for the purposes described herein.

9.1.3 Exceptions. Receiving Party's obligation of nondisclosure and the limitations upon the right to use the Disclosing Party's Confidential Information shall not apply to the extent that Receiving Party can demonstrate that the Disclosing Party's Confidential Information: (a) was known to Receiving Party or any of its Affiliates prior to the time of disclosure, as evidenced by contemporaneous written records; (b) is or becomes public knowledge through no fault or omission of Receiving Party or any of its Affiliates; (c) is obtained by Receiving Party or any of its Affiliates from a Third Party under no obligation of °confidentiality to Disclosing Party; or (d) has been independently developed by employees, subcontractors, consultants or agents of Receiving Party or any of its Affiliates without the aid, application or use of Disclosing Party's Confidential Information, as evidenced by contemporaneous written records.

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9.1.4 Permitted Disclosures. Receiving Party may disclose Disclosing Party's Confidential Information to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

(a) in order to comply with applicable law (including any securities law or regulation or the rules of a securities exchange) or with a legal or administrative proceeding;

(b) in connection with prosecuting or defending litigation, Marketing Approvals and other regulatory filings and communications, and filing, prosecuting and enforcing Patents in connection with Receiving Party's rights and obligations pursuant to this Agreement; and

(c) in connection with exercising its rights hereunder, to its Affiliates; potential and future collaborators (including Sublicensees where Company is the Receiving Party); and permitted and potential acquirers or assignees; potential investment bankers, investors and lenders;

provided that (1) with respect to the foregoing clause (a) or (b), where reasonably possible, Receiving Party shall notify Disclosing Party of Receiving Party's intent to make any disclosure pursuant thereto sufficiently prior to making such disclosure so as to allow Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) with respect to the foregoing clause (c), each of those named people and entities are required to comply with the restrictions on use and disclosure in Section 9.1.2 (Restrictions) (other than investment bankers, investors and lenders, which must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

Section 9.2 Terms of this Agreement; Publicity.

9.2.1 Restrictions. The Parties agree that the terms of this Agreement shall be treated as Confidential Information of both Parties, and thus may be disclosed only as permitted by Section 9.1.4 (Permitted Disclosures). Except as required by law and except for the press release attached hereto as the Press Release Schedule to be issued on or after the Closing Date, each Party agrees not to issue any press release or public statement disclosing information relating to this Agreement or the Products in the Territory or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party not to be unreasonably withheld (or as such consent may be obtained in accordance with Section 9.2.2 (Review)).

9.2.2 Review. In the event either Party (the "**Issuing Party**") desires to issue a press release or other public statement disclosing information relating to this Agreement or the transactions contemplated hereby or the terms hereof, the Issuing Party shall provide the other Party (the "**Reviewing Party**") with a copy of the proposed press release or public statement (the "**Release**"). The Issuing Party shall specify with each such Release, taking into account the urgency of the matter being disclosed, a reasonable period of time within which the Receiving Party may provide any comments on such Release (but in no event less than [*] business days) and if the Receiving Party fails to provide any comments during the response period called for by the Issuing Party, the Reviewing Party shall be deemed to have consented to the issuance of such Release. If the Receiving Party provides any comments, the Parties shall consult on such Release and work in good faith to prepare a mutually acceptable Release. Either Party may

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subsequently publicly disclose any information previously contained in any Release so consented to. For the avoidance of doubt, notwithstanding anything to the contrary, Company, in its sole discretion, may (a) subject to the terms of Section 9.1 (Confidential Information), disclose information relating to Company's, its Affiliates', and Sublicensees' activities in connection with the subject matter hereunder, including information relating to research and any clinical trial conducted by Company (including in marketing or publicity materials) and any health or safety matter related to a Product and (b) disclose information relating to this Agreement or the transactions contemplated hereby to current and potential investors in and potential acquirers and Sublicensees of Company who are bound prior to disclosure by commercially reasonable obligations of confidentiality.

Section 9.3 Relationship to the Confidentiality Agreement. All "Confidential Information" disclosed or received by or on behalf of a Party under that certain Confidential Disclosure Agreement between Amgen and Kleiner Perkins Caufield & Byers, dated October 17, 2011, shall be deemed "Confidential Information" hereunder and shall be subject to the terms and conditions of this Agreement.

Section 9.4 Publications.

9.4.1 Right to Publish. Subject to the provisions of Sections 9.1 (Confidential Information), 9.2 (Terms of this Agreement; Publicity) and 9.4.2 (Review), both Parties shall have the right to publish with respect to Products in publications based in the Territory, and to make scientific presentations on Products in the Territory (*provided* that prior to any such publication or presentation by Amgen with respect to a Product in the Territory, Amgen shall obtain Company's prior written consent). Neither Party shall publish the [*] or information concerning the [*] without the prior consent of the other Party.

9.4.2 Review. Except as required by Law or court order, for any proposed publication or presentation regarding a Product in the Territory, the Party desiring to make such publication: (a) shall transmit a copy of the proposed publication for review and comment to the other Party (and any applicable licensee) at least [*] prior to the submission of such publication to a Third Party; (b) upon request of the other Party (or applicable licensee) shall remove all Confidential Information of the other Party (or applicable licensee); and (c) shall consider all reasonable comments made by the other Party (or applicable licensee).

ARTICLE 10. TERM AND TERMINATION

Section 10.1 Term. The term of this Agreement (the "**Term**") shall commence on the Signing Date, and unless terminated earlier as provided in this Article 10 (Term and Termination), shall continue in full force and effect until expiration of the last-to-expire Royalty Term for any Product in the Territory. Upon expiration of this Agreement, the licenses granted to Company by Amgen under this Agreement to Exploit Products shall be fully paid-up, royalty-free, irrevocable and non-exclusive.

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Section 10.2 Termination by Amgen.

10.2.1 Breach.

(a) Subject to Section 10.2.1(b), Amgen shall have the right to terminate this Agreement in full upon delivery of written notice to Company in the event of any material breach by Company of any terms and conditions of this Agreement; *provided* that such termination shall not be effective if such breach has been cured within [*] after written notice thereof is given by Amgen to Company specifying the nature of the alleged breach.

(b) Notwithstanding the foregoing, in the event of a good faith dispute between the Parties as to whether Company has materially breached any terms or conditions of this Agreement (a "**Dispute**"), then, except [*], (i) the Parties shall resolve the Dispute pursuant to Section 11.4 (Governing Law; Jurisdiction) (the period until the resolution of such Dispute being the "**Dispute Period**"); (ii) each Party will continue to perform its obligations under this Agreement during the Dispute Period and (iii) if the relevant judicial finder of fact ("**Finder of Fact**") determines that Company is in material breach as asserted by Amgen (a "**Breach**"), then, following such adjudication by the Finder of Fact and in lieu of any such termination by Amgen, Company shall have the right to cure (A) any payment breach by payment in full of any finally determined monetary award and (B) any other breach that [*]. For avoidance of doubt, this Section 10.2.1 shall not abrogate Amgen's right to obtain injunctive or equitable relief at any time from a court of competent jurisdiction and/or attorneys' fees in connection with any relief so granted.

10.2.2 Termination for IP Challenge. To the extent allowed by Law, Amgen shall have the right, upon written notice to Company, to terminate in full (a) this Agreement, in the event that Company or any of its Affiliates directly challenges in a legal or administrative proceeding the patentability, enforceability or validity of any Licensed Patents or Framework Patents, or (b) any Sublicensee's sublicense, in the event that such Sublicensee directly challenges in a legal or administrative proceeding the patentability, enforceability or validity of any Licensed Patents; *provided* that Amgen shall not have the right to terminate any sublicense under Section 10.2.2 (b) (Termination for IP Challenge) for any such challenge by any Sublicensee if such challenge is dismissed within [*] of Amgen's notice to Company under this Section 10.2.2 (Termination for IP Challenge) and not thereafter continued.

Section 10.3 Termination by Company.

10.3.1 Breach. Company shall have the right to terminate this Agreement in full upon delivery of written notice to Amgen in the event of any material breach by Amgen of any terms and conditions of this Agreement; *provided* that such termination shall not be effective if such breach has been cured within [*] after written notice thereof is given by Company to Amgen specifying the nature of the alleged breach.

10.3.2 Discretionary Termination. Company shall have the right to terminate this Agreement in full, or on a Product-by-Product basis, [*] after delivery of written notice to Amgen if the Board of Directors of Company concludes due to scientific, technical, regulatory or commercial reasons, including (a) safety or efficacy concerns, including adverse events of a Product, (b) concerns relating to the present or future marketability or profitability of a Product, (c) reasons related to patent coverage or (d) existing and anticipated competition, renders the Exploitation of a Product no longer commercially practicable for Company.

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Section 10.4 Termination Upon Bankruptcy. Either Party may terminate this Agreement if, at any time, the other Party shall (a) file in any court or agency pursuant to any statute or regulation of any state, country or jurisdiction, a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver or trustee of that Party or of its assets, (b) propose a written agreement of composition or extension of its debts, (c) be served with an involuntary petition against it, filed in any insolvency proceeding, and such petition has not been dismissed within [*] after the filing thereof, (d) propose or be a party to any dissolution or liquidation, (e) make an assignment for the benefit of its creditors or (f) admit in writing its inability generally to meet its obligations as they fall due in the general course.

Section 10.5 Effects of Termination. Upon termination by either Party under Sections 10.2 (Termination by Amgen), 10.3 (Termination by Company) or 10.4 (Termination Upon Bankruptcy):

(a) Company shall responsibly wind-down, in accordance with accepted pharmaceutical industry norms and ethical practices, any on-going clinical studies for the Terminated Products for which it has responsibility hereunder in which patient dosing has commenced or, if reasonably practicable and requested by Amgen, Company, its Affiliates or its Sublicensees shall complete such trials. Company shall be responsible for any costs associated with such wind-down. Amgen shall pay all costs incurred by either Party to complete such studies should Amgen request that such studies be completed.

(b) A termination of this Agreement shall [*] with respect to the Terminated Products pursuant to Section [*]; *provided* that, with respect to [*], as of the effective date of termination and [*] consistent with the terms and conditions contained herein, with [*], or [*], Company may, to the extent it is legally permitted to do so, [*] and [*] and [*].

(c) All rights and licenses granted by Amgen to Company in Article 2 (License Grant) with respect to the Terminated Products shall terminate, and Company and its Affiliates shall cease all use of Licensed Know-How and Licensed Patents related to the Terminated Products and all Exploitation of the Terminated Products, except to the extent required under Section 10.5(a).

(d) Upon Amgen's request, all Marketing Approvals and other regulatory filings and communications relating to the Terminated Products owned (in whole or in part) or otherwise controlled by Company and its Affiliates and Sublicensees, and all other documents relating to or necessary to further Exploit any Terminated Products, as such items exist as of the effective date of such termination (including all related completed and ongoing clinical studies) shall be assigned to Amgen, and Company shall provide to Amgen one (1) copy of the foregoing and all documents contained in or referenced in any such items, together with the raw and summarized data for any clinical studies (and where reasonably available, electronic copies thereof). In the event of any failure to obtain assignment, Company hereby consents and grants to Amgen the right to access and reference (without any further action required on the part of Company, whose authorization to file this consent with any Regulatory Authority is hereby granted) any such item.

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(e) Company hereby grants to Amgen and its Affiliates, and Amgen and its Affiliates shall automatically have, a [*] license, [*], under Know-How and Patent Rights that are Controlled by Company or any of its Affiliates and Sublicensees for Exploiting the Terminated Products and any improvement to any of the foregoing (such license effective only as of and after the effective date of such termination). The Patent Rights so licensed shall be subject to [*].

(f) Upon Amgen's request, Company shall assign (or, if applicable, shall cause its Affiliates or Sublicensees to assign) to Amgen all of Company's (and such Affiliates' and Sublicensees') right, title and interest in and to any registered or unregistered trademarks or internet domain names worldwide that are specific to a Terminated Product (it being understood that the foregoing shall not include any trademarks or internet domain names that contain the corporate or business name(s) of Company).

(g) Company agrees (and shall cause its Affiliates and Sublicensees as a condition of the grant of the applicable Sublicense to so agree) to fully cooperate with Amgen and its designee(s) to facilitate a smooth, orderly and prompt transition of the Exploitation of Terminated Products in the Territory to Amgen and/or its designee(s). Upon request by Amgen, and at Amgen's expense, Company shall transfer to Amgen some or all quantities of Terminated Products in its possession. If Company is, at the time of such termination of this Agreement, party to any Third Party contracts with respect to a Terminated Product, then it shall provide Amgen notice and (to the extent permitted to do so) copies thereof. Company shall assign to Amgen (and Amgen shall assume and perform) any such contracts requested by Amgen, to the extent it has the right under such contract(s) to do so (and shall use commercially reasonable efforts to obtain any required consents). In addition, Company shall, at Amgen's cost and expense, provide any cooperation reasonably requested by Amgen to ensure uninterrupted supply of Terminated Products. If Company manufactured any Terminated Product at the time of termination, then Company shall continue to provide for manufacturing of such Product for Amgen, at [*] of the fully-burdened manufacturing cost therefor (for clarity, such cost shall be paid by Amgen to Company), from the date of notice of such termination until the sooner to occur of (a) such time as Amgen is able, using commercially reasonable efforts to do so, to secure an acceptable alternative commercial manufacturing source from which sufficient quantities of Product may be procured and legally sold in the Territory and (b) [*] from the effective date of termination of this Agreement.

(h) For clarity, the terms and conditions of this Agreement shall continue in full force and effect with respect to any Product other than the Terminated Products, and the terms and conditions of the provisions listed as surviving pursuant to Section 10.6 (Survival) shall continue in full force and effect with respect to the Terminated Products.

Company shall duly execute and deliver, or caused to be duly executed and delivered, such instruments and shall do and cause to be done such activities and things, including the filings of such assignments, agreements, documents and instruments, as may be necessary under, or as Amgen may reasonably request in connection with, Amgen's rights under this Section 10.5 (Effects of Termination).

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Section 10.6 Survival. In addition to the termination consequences set forth in Section 10.5 (Effects of Termination), the following provisions shall survive termination or expiration of this Agreement: Articles 1 (Definitions), 7 (Indemnification), 8 (Confidentiality), and 10 (Miscellaneous) and Sections 2.7 (Limited Exploitation Rights), 3.3 (Milestone Payments) (with respect to milestones reached prior to such expiration or termination), 3.4 (Royalties) (with respect to sales made before such expiration or termination), 3.6 (Method of Payment; Royalty Reporting\) through 3.10 (Taxes) (inclusive) (with respect to periods with sales of Products made before such expiration or termination), 4.3 (Enforcement) through 4.5 (Recovery) (with respect to any action initiated prior to such expiration or termination), 7.3 (Disclaimer), 10.5 (Effects of Termination) and this Section 10.6 (Survival). Termination or expiration of this Agreement shall not relieve the Parties of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration nor preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement nor prejudice either Party's right to obtain performance of any obligation. All other rights and obligations shall terminate upon expiration of this Agreement.

ARTICLE 11. MISCELLANEOUS

Section 11.1 Entire Agreement; Amendment. This Agreement and all Schedules attached to this Agreement constitute the entire agreement between the Parties as to the subject matter hereof. All prior and contemporaneous negotiations, representations, warranties, agreements, statements, promises and understandings with respect to the subject matter of this Agreement are superseded hereby. Neither Party shall be bound by or charged with any written or oral agreements, representations, warranties, statements, promises or understandings not specifically set forth in this Agreement. No amendment, supplement or other modification to any provision of this Agreement shall be binding unless in writing and signed by both Parties.

Section 11.2 Section 365(n) of the Bankruptcy Code. All rights and licenses granted under or pursuant to any section of this Agreement are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101(35A) of the U.S. Bankruptcy Code to the extent permitted thereunder. The Parties shall retain and may fully exercise all of their respective rights and elections under the U.S. Bankruptcy Code or any analogous provisions in any other country or jurisdiction. Upon the commencement of a bankruptcy proceeding by or against either Party, the Party that is not a party to such proceeding shall further be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property and all embodiments of such intellectual property, which, if not already in the non-subject Party's possession, shall be promptly delivered to it, unless the Party subject to the proceeding elects to continue, and continues, to perform all of its obligations under this Agreement.

Section 11.3 Independent Contractors. The relationship between Company and Amgen created by this Agreement is solely that of independent contractors. This Agreement does not create any agency, distributorship, employee-employer, partnership, joint venture or similar

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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. Each Party shall use its own discretion and shall have complete and authoritative control over its employees and the details of performing its obligations under this Agreement.

Section 11.4 Governing Law; Jurisdiction. This Agreement and its effect are subject to and shall be construed and enforced in accordance with the law of [*], without regard to its conflicts or choice of law rules or principles, except as to any issue which depends upon the validity, scope or enforceability of any Licensed Patent, which issue shall be determined in accordance with the laws of the country in which such patent was issued. Each of the Parties hereby irrevocably and unconditionally consents to submit to the exclusive jurisdiction of the courts of [*] for any matter arising out of or relating to this Agreement and the transactions contemplated hereby, and agrees not to commence any litigation relating thereto except in such courts. Each of the Parties hereby irrevocably and unconditionally waives any objection to the laying of venue of any matter arising out of this Agreement or the transactions contemplated hereby in the courts of [*] and hereby further irrevocably and unconditionally waives and agrees not to plead or claim in any such court that any such matter brought in any such court has been brought in an inconvenient forum. The Parties agree that a final judgment in any such matter shall be conclusive and may be enforced in other jurisdictions by suits on the judgment or in any other manner provided by law. Any proceeding brought by either Party under this Agreement shall be exclusively conducted in the English language.

Section 11.5 Notice. Except as otherwise expressly set forth herein, all notices or communication required or permitted to be given by either Party hereunder shall be deemed sufficiently given if mailed by registered mail or certified mail, return receipt requested, or sent by overnight courier, such as Federal Express, to the other Party at its respective address set forth below or to such other address as one Party shall give notice of to the other from time to time hereunder. Mailed notices shall be deemed to be received on the third (3rd) business day following the date of mailing. Notices sent by overnight courier shall be deemed received the following business day.

If to Company: Santa Maria Biosciences, Inc.
c/o Kleiner Perkins Caufield & Byers
2750 Sand Hill Road
Menlo Park, CA 94025
Attn: Isaac Ciechanover, MD

If to Amgen: Amgen Inc.
One Amgen Center Drive
Thousand Oaks, CA 91320
Attn: Corporate Secretary

Section 11.6 Compliance With Law; Severability. Nothing in this Agreement shall be construed to require the commission of any act contrary to Law. If any one or more provisions of this Agreement is held to be invalid, illegal or unenforceable, the affected provisions of this

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Agreement shall be curtailed and limited only to the extent necessary to bring it within the applicable legal requirements, and the validity, legality and enforceability of the remaining provisions of this Agreement shall not in any way be affected or impaired thereby.

Section 11.7 Non-Use of Names. Amgen shall not, and shall require its Affiliates not to, use the name, trademark, logo or physical likeness of Company or any of its officers, directors or employees, or any adaptation of any of them, in any advertising, promotional or sales literature, without such Company's prior written consent. Company shall not, and shall require its Affiliates not to, use the name, trademark, logo or physical likeness of Amgen or any of its officers, directors or employees, or any adaptation of any of them, in any advertising, promotional or sales literature, without Amgen's prior written consent.

Section 11.8 Successors and Assigns. Neither this Agreement nor any of the rights or obligations created herein, except for the right to receive any remuneration hereunder, may be assigned by either Party, in whole or in part, without the prior written consent of the other Party, not to be unreasonably withheld or delayed except that either Party shall be free to assign this Agreement in connection with any merger, sale of such Party or sale of all or substantially all of the assets of the Party relating to this Agreement (a "**Sale Transaction**"), without the prior consent of the non-assigning Party; *provided* that, in the case of a Sale Transaction of Company, the assignee shall be required to assume all of Company's obligations hereunder. This Agreement shall bind and inure to the benefit of the successors and permitted assigns of the Parties hereto. Any assignment of this Agreement in contravention of this Section 11.8 (Successors and Assigns) shall be null and void.

Section 11.9 Sale Transaction or Amgen Acquisition. In the event of (x) a Sale Transaction, or (y) the acquisition by Amgen of all or substantially all of the business of a Third Party (together with any entities that were Affiliates of such Third Party immediately prior to such acquisition, an "**Amgen Acquiree**"), whether by merger, sale of stock, sale of assets or otherwise (an "**Amgen Acquisition**"), the intellectual property rights of the acquiring party in a Sale Transaction, if other than one of the Parties to this Agreement (together with any entities that were affiliates of such Third Party immediately prior to such Sale Transaction, a "**Third Party Acquirer**"), or the Amgen Acquire; as applicable, shall not be included in the technology licensed hereunder or otherwise subject to this Agreement.

Section 11.10 Waivers. A Party's consent to or waiver, express or implied, of the other Party's breach of its obligations hereunder shall not be deemed to be or construed as a consent to or waiver of any other breach of the same or any other obligations of such breaching Party. A Party's failure to complain of any act, or failure to act, by the other Party, to declare the other Party in default, to insist upon the strict performance of any obligation or condition of this Agreement or to exercise any right or remedy consequent upon a breach thereof, no matter how long such failure continues, shall not constitute a waiver by such Party of its rights hereunder, of any such breach, or of any other obligation or condition. A Party's consent in any one instance shall not limit or waive the necessity to obtain such Party's consent in any future instance and in any event no consent or waiver shall be effective for any purpose hereunder unless such consent or waiver is in writhing and signed by the Party granting such consent or waiver.

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Section 11.11 No Third Party Beneficiaries. Except as expressly provided with respect to Amgen Indemnified Parties and Company indemnified Parties in Article 8 (Indemnification) and Amgen's licensees, nothing in this Agreement shall be construed as giving any Person, other than the Parties hereto and their successors and permitted assigns, any right, remedy or claim under or in respect of this Agreement or any provision hereof.

Section 11.12 Headings; Schedules. Article and Section headings used herein are for convenient reference only, and are not a part of this Agreement. All Schedules are incorporated herein by this reference.

Section 11.13 Interpretation. Except where the context otherwise requires, wherever used, the singular shall include the plural and the plural the singular, the use of any gender shall be applicable to all genders and the word "**or**" is used in the inclusive sense (and/or). The term "**including**" as used herein shall mean including, without limiting the generality of any description preceding such term. All references to a "**business day**" or "**business days**" in this Agreement means any day other than a day which is a Saturday or Sunday or any day banks are authorized or required to be closed in the United States. The language in all parts of this Agreement shall be deemed to be the language mutually chosen by the Parties. The Parties and their counsel have cooperated in the drafting and preparation of this Agreement, and this Agreement therefore shall not be construed against any Party by virtue of its role as the drafter thereof.

Section 11.14 Counterparts. This Agreement may be executed in counterparts by a single Party, each of which when taken together shall constitute one and the same agreement, and may be executed through the use of facsimiles or electronically transmitted documents.

[Signature page follows]

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IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first set forth above.

SANTA MARIA BIOSCIENCES, INC.	AMGEN INC.
By: /s/ Isaac Chiechanover	By: /s/ Jonathan Peacock
Name: Isaac Chiechanover	Name: Jonathan Peacock
Title: President	Title: Executive Vice President and Chief Financial Officer

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Schedule

Business Plan

[Schedule begins on following page.]

ATARA BIOTHERAPEUTICS

KPCB | KLEINER PERKINS CAUFIELD BYERS

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Big Idea

- Innovative company model
  - Multiple shots on goal – three M&A stage programs in 3-4 years
  - [*]

- Novel products
  - De-risked portfolio of assets, in human POC achieved
  - Biology has applicability in multi-billion dollar indications: cancer, dialysis, aging…

- [*]

Atara Tx – Executive Team

Name	Role	Previous Experience
Isaac Ciechanover, MD	Founder, President, & CEO	• Partner KPCB's Life Sciences Group • Celgene, various roles in BD, Clinical Project Management
[*]		
Christopher Haqq, MD	CMO	• CEO Genomic Systems • VP Cougar/JNJ. Led pivotal Zytiga (abiraterone acetate) trial through global approvals • Dir. Amgen (3 INDs)
John McGrath	COO & Secretary	• Partner KPCB Operations Team • CFO of Network Equipment Technologies (NYSE Listed)

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Contributors

Scientific Advisory Board	Roles	Drugs Developed
[*]		
Consultants		
[*]		
Board Members		
[*]		

MUSCLE PORTFOLIO

TARGETING UNMET MEDICAL NEEDS

Muscle Wasting and Cachexia Represent A Large Unmet Medical Need

Muscle Wasting and Cachexia

Highly debilitating and life-threatening

Common to many major diseases:

- ***CKD***
- ***Cancer***
- ***CHF***
- ***AIDS***
- ***COPD***

Steve Jobs

Sept. 19, 2007 Sept. 9, 2008

About Renal Cachexia

- [*]
- Correlates with death and hospitalization, with median survival 2 years worse than most cancers
- No effective treatment in the clinic

Patrick Swayze

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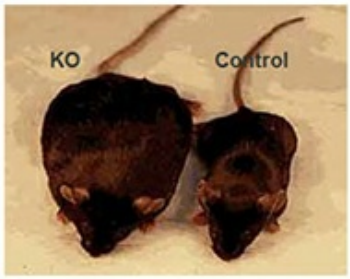
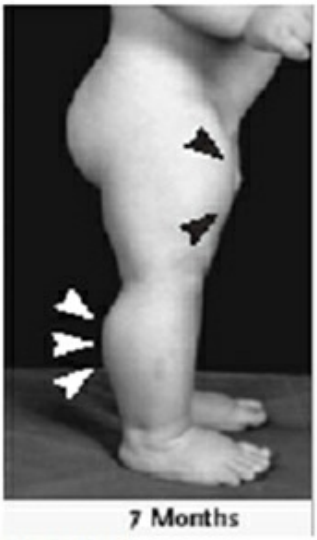
Myostatin Loss-of-Function Phenotype In Multiple Species Suggests A New Opportunity to Combat Muscle Wasting

McPherron AC & Lee SJ , *PNAS* (1997)
Grobet L. et al. *Nature Genet.* (1997)



McPherron AC, Lawler AM, Lee SJ. *Nature* (1997)



Schuelke M. et al.
New England Journal of Medicine (2004)

Mosher D, et al., PloS Genetics. (2007)

ATA 745

Executive Summary – ATA 745

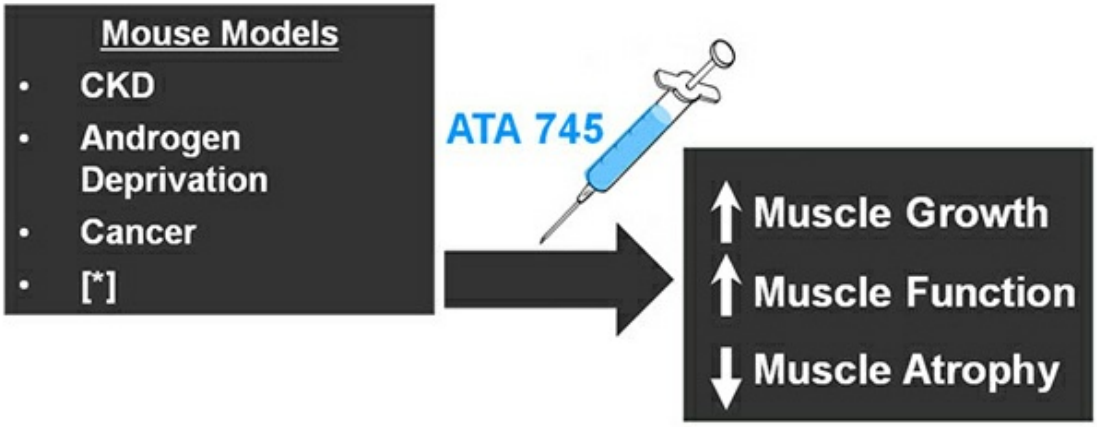
Agent Type	Peptibody - a novel molecule engineered by fusing an IgG1 Fc domain to a peptide which inhibit Myostatin
Indication	Protein Energy Wasting in ESRD – a prevalent [*] condition associated with decreased physical function and increased mortality
Value Proposition	Based on preclinical and clinical data, ATA 745 may improve lean body mass, physical function and increase survival
Conviction	De-risked program: • Successfully achieved proof-of-concept tested in humans • Phase II ready (including materials)
Plan	• Team has developed a clinical strategy [*] • Regulatory & KOL discussions to inform program

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

ATA-745 is an Anti-Myostatin Peptibody

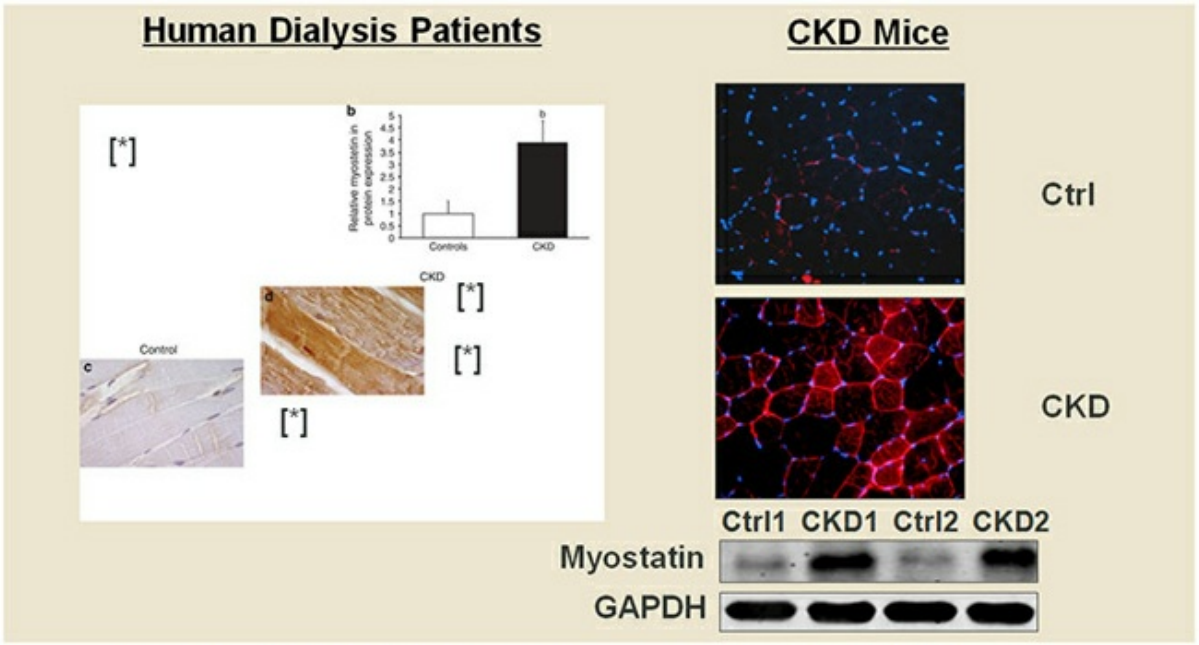
[*]

ATA 745 Stimulates Muscle Growth and Attenuates Muscle Wasting in Various Preclinical Models



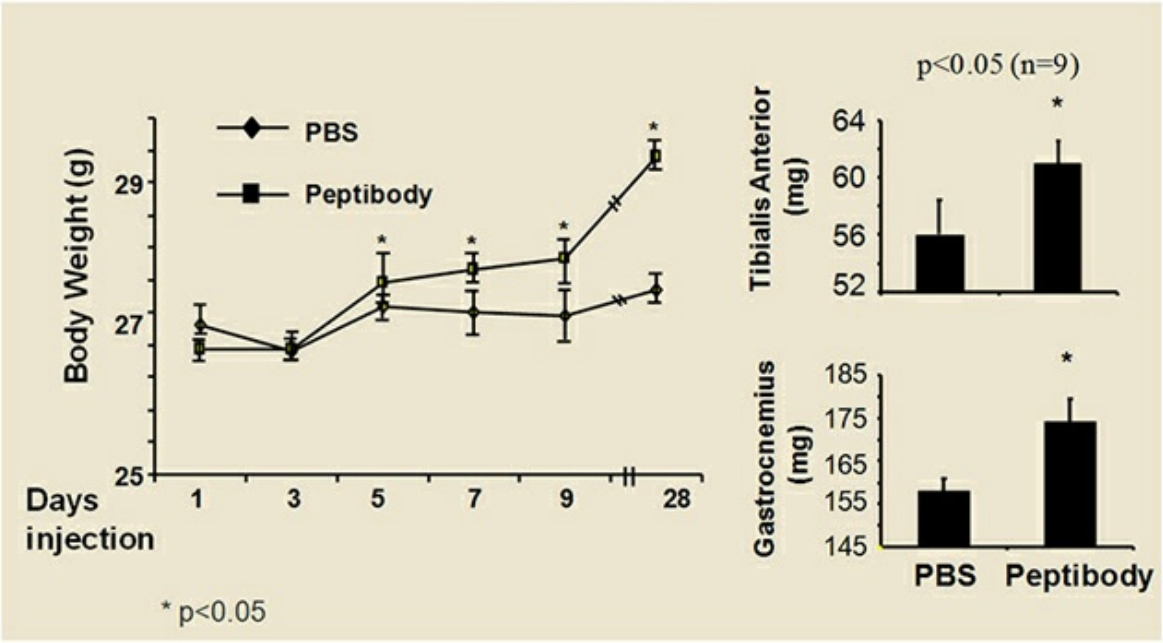
[*] = Certain confidential information contained in this document, marked by brackets, has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended.

Myostatin Expression in Muscles Is Upregulated in Human CKD Patients and in CKD Mice

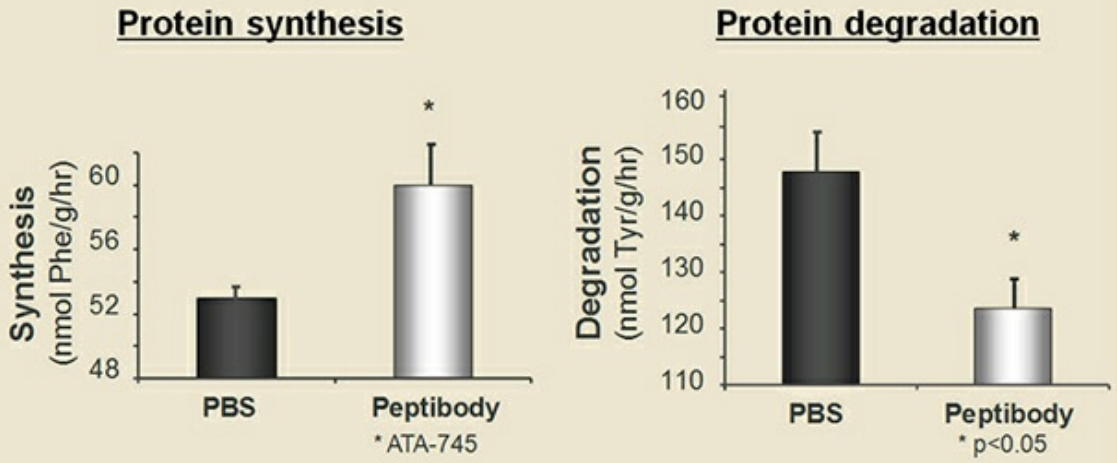


Verzola et al., 2011 Kidney International **79** *In collaboration with William E. Mitch*

ATA 745 Increases Body Weight and Muscle Mass in CKD Mice



ATA 745 Stimulates Protein Synthesis and Inhibits Protein Breakdown in Muscles in CKD Mice



The ATA 745 mechanism is via AKT stimulation and FOXO inhibition

ATA 745 Reduces TNF-a and IL-6 Key Mediators of Cachexia and Inflammation in CKD Mice

[*]

ATA-745 vs CKD:

	WT Control (pg/ml)	[*]	[*]	P Values	
				CKD vs. wt	Peptibody vs. PBS
TNF-α	*0.1±0.06*	[*]	[*]	*0.189*	*0.033**
IL-6	5.8±0.48	[*]	[*]	0.041*	*0.036**

ATA 745
Clinical Review and Next Steps

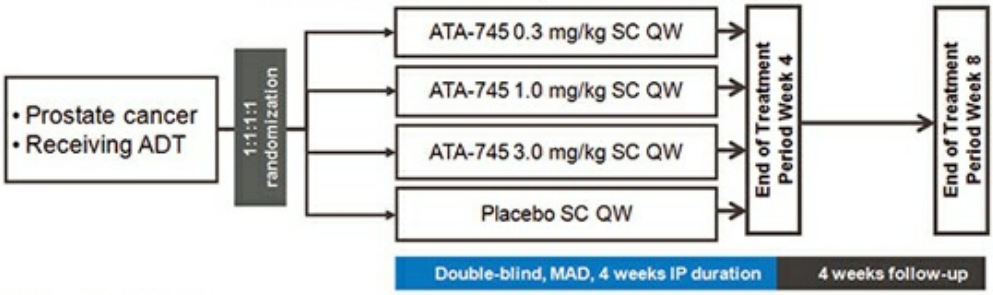
ATA 745 Toxicology [*]

Development

- [*]

[*] Multidose Phase I Study Design

Prostate cancer patients on androgen deprivation therapy (ADT) assessed for safety and efficacy



Efficacy End Points

•Change in

- Lean body mass (DEXA)
- lower-extremity muscle size (CT)
- [*]
- [*] also conducted Single Dose PK/Safety Phase 1

ATA 745 Pharmacokinetic Overview

PK Observation	Clinical Implication
[*]	

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ATA 745 Safety Profile

3 Phase 1 studies with 151 enrolled subjects
- 48 subjects exposed to highest dose 3mg/Kg

No treatment related SAEs across all studies

Identified risks from clinical trials:
- Injection site reaction
- [*]

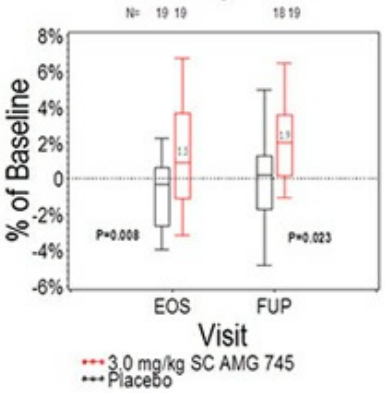
ATA-745 appears to be safe and well tolerated

[*]

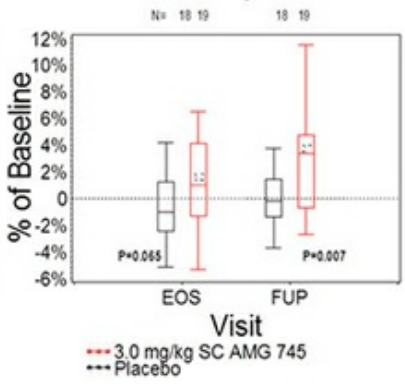
[*]

ATA 745 is the First Myostatin Antagonist to Show Muscle Growth Efficacy in Patients

Lean Body Mass



Lower Extremity Muscle Size



[*]

EOS: End-of-study (1 month); FUP: Follow-up-period (1 month)

Patients average age = 73 years; ADT = Androgen Deprivation Therapy

- Patients with ADT lose about ~4% muscle mass [*]
- One month treatment with ATA 745 increased muscle mass by ~2%

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ATA 745 CMC Characteristics

[*]

ATA 745 Clinical Plan

[*]

[*]

ATA 745 Development Plan

[*]

ATA 434/777

Executive Summary – ATA 777 or 434

Agent Type	• ATA 434 – soluble receptor fusion protein inhibiting ligands such as Myostatin and Activin [*] • ATA 777 – fully human antibody inhibiting Activin [*]
Indication	• Ovarian cancer – Annual WW death rate of 125,000 (15,000 in the US), ranking the disease as the deadliest cancer for women
Value Proposition	Preclinical data supports dual role in treating OC: • Anti-tumor effect in combination with chemotherapy • Anti-cachexia - preserving and growing muscle
Conviction	[*]
Plan	[*] • Regulatory & KOL discussions to inform program

Activin-A Is A Key Mediator of *BOTH* Ovarian Tumor Growth and Cachexia

Activin-A:

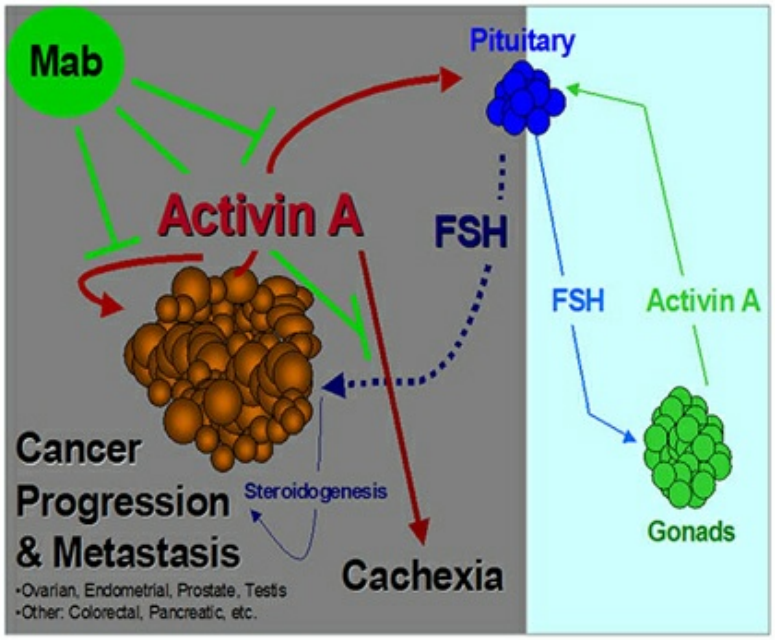
TGFβ family member originally identified in gonadal fluids

Physiology:

- Secreted by the gonads
- Stimulates FSH release in the pituitary – reg. ovarian cycle
- Paracrine factor in wound healing, cell proliferation and differentiation, immune response and angiogenesis

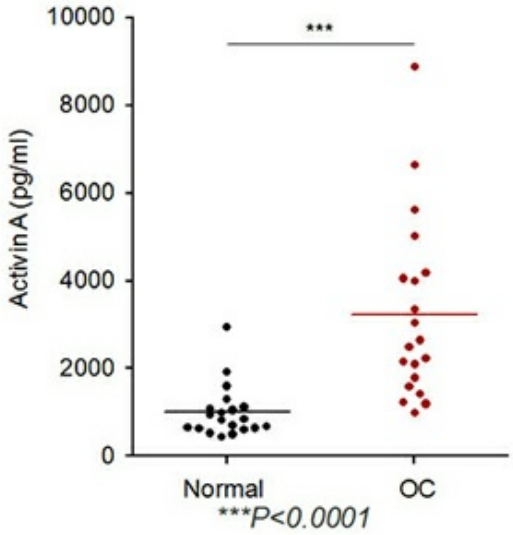
Pathophysiology:

- Elevated in cancer and inflammation
- Cancer cachexia
- Tumor Progression



Activin Levels Are Markedly Elevated in Patients with OC & May Serve as a Biomarker

[*] Serum Activin (ELISA)



Ovarian Cancer Literature

- Seventy-two percent of the stage III and IV patients (26/36), and none (0/5) of the stage I patients, had an elevated preoperative serum Activin level.

- In postoperative samples, Activin A levels were increased with persistent or recurrent (n = 9) stage III or IV ovarian cancer.

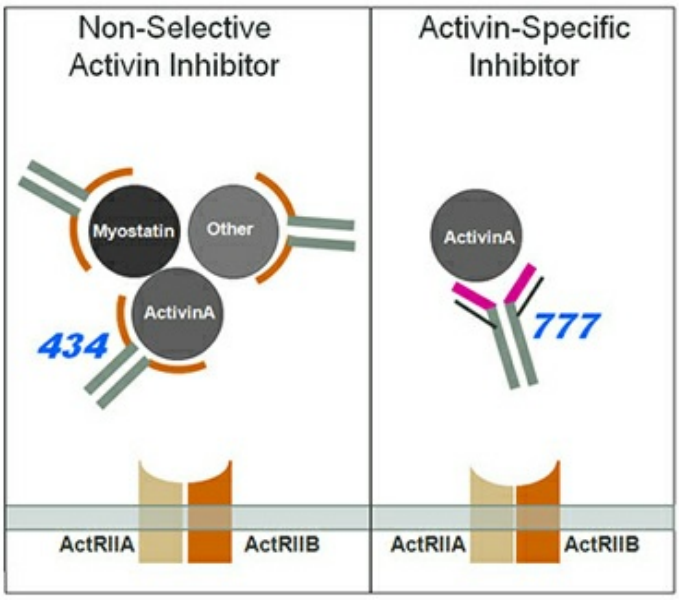
CONCLUSION:

- Serum Activin A levels correlate with recurrent or persistent disease in patients with epithelial ovarian cancer

- Activin Levels will be Evaluated as a Potential Predictive Biomarker in CKD Clinical Trials

Source: Lambert-Messerlian et al., 1999 Gynecol Oncol. 74(1):93-7

ATA 434 and 777 Potently Antagonize Activin-A, a Key Mediator of Ovarian Cancer Growth & Cachexia



434 [*]

Soluble ActRIIB decoy receptor [*] which sequesters Activin-A as well as myostatin and other closely related ligands

[*]

777 [*]

Fully human antibody [*]

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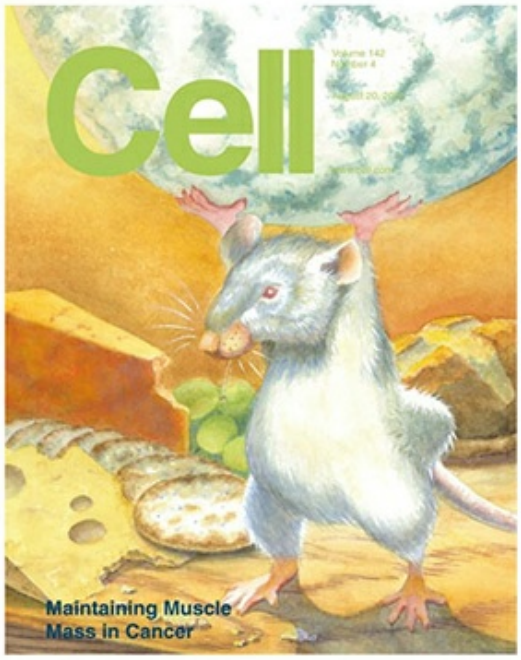
Reversal of Muscle Wasting Leads to Prolonged Survival in Cancer Mice



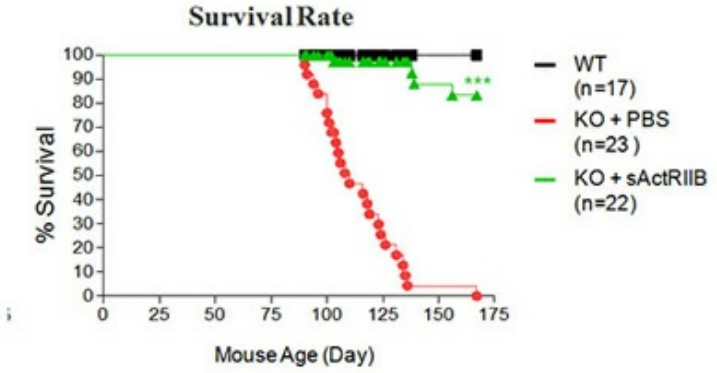
In tumor-bearing mice, blocking the Myostatin-Activin signaling pathway:

- Reversed muscle loss, cardiac atrophy, and anorexia
- Extended lifespan even without reducing tumor growth
- Suppressed Ub-proteasome system activity in skeletal muscle
- Stimulated muscle stem cell growth and muscle regeneration

ATA 434 Reverses Cachexia and Prolongs Survival in Mice with Ovarian Tumors

[*]

[*]



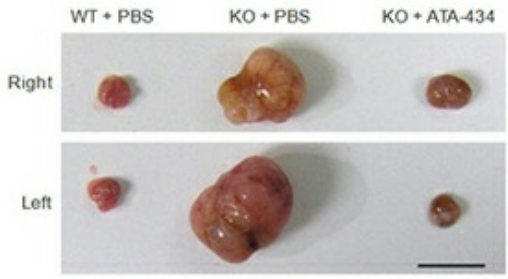
[*]

[*]

ATA 434 [*] Neutralize Activin and Regress Established Ovarian Tumors in Mice

[*]

Ovarian Tumor Size

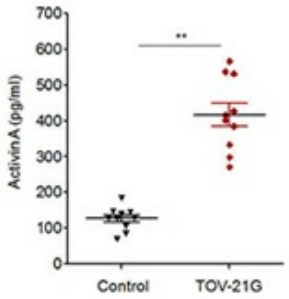


[*]

[*]

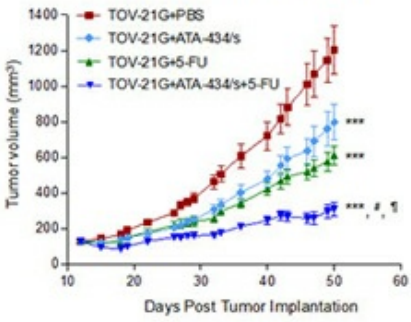
ATA 434 [*] Show Additive Antitumor Activity with Chemo in Ovarian Cancer Xenografts

Serum Activin A



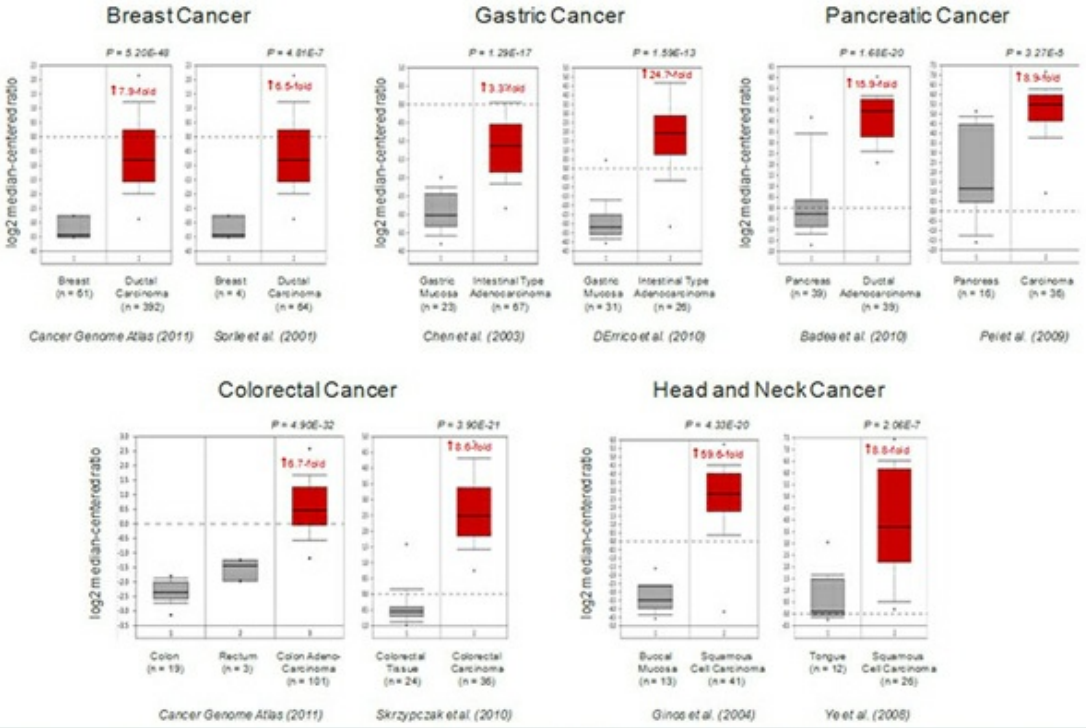
[*]

Additive Effect w/ 5-FU



[*] [*]

Beyond Ovarian Cancer, A Potential Role of Activin Inhibition Will be Explored



NEXT STEPS 434/777

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[*]

ATA 777 (vs ATA 434) Development Strategy

[*]

ATA 434 Development Plan

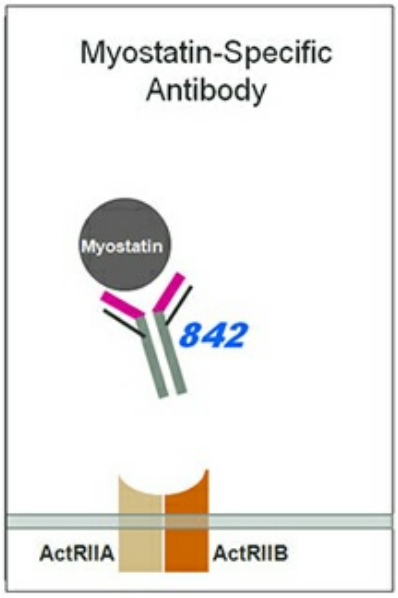
[*]

ATA 842

Executive Summary – ATA 842

Agent Type	Novel humanized antibody inhibiting Myostatin
Indication	• Cancer-related muscle loss is present in approximately 80% of patients with advanced cancer • Tremendous unmet need for an anabolic muscle agent like ATA 842 which can increase lean muscle mass, and potentially maintain physical function, quality life and extend survival
Value Proposition	Preclinical data in multiple animal models has shown: [*]
Conviction	Lilly advancing its own Myostatin antibody (LY2495655) in four phase II clinical trials, including cancer cachexia. ATA 842 is a superior antibody with greater selectivity. [*]
Plan	• Manufacture ATA 842 and conduct key pre-clinical studies to validate thesis [*] • Regulatory & KOL discussions to inform program

ATA 842 is a Potent Selective Myostatin Inhibitor



Humanized antibody [*], which inhibits Myostatin with a [*] selectivity [*]

[*]

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[*]

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ATA 842 Next Steps

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ATA 842 Development Strategy

[*]

[*]

ATA 842 Development Plan

[*]

ATA 842 Next Steps

[*]

Financing & Budget

Budget and Financing Timing

[*]

Financing Plans and Deliverables

[*]

Schedule

Disclosure

[*]

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Schedule
Licensed Know-How

[*]

[22 pages omitted]

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Schedule

Licensed Materials

[*]

[4 pages omitted]

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Schedule

Licensed Patents

[*]

[9 pages omitted]

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Schedule
Milestones and Royalties

Milestone Payments: The Milestone Events and Milestone Payments to be made pursuant to Section 3.3 of the Agreement are as follows:

Milestone Event	Payment
Development Milestones, payable on a Product-by-Product basis	
[*]	[*]
Commercial Milestones with respect to Products	
[*]	[*]

* Notwithstanding anything to the contrary, if, [*], then this Milestone Payment shall not be payable until [*].

1. Royalties: The royalty rates payable under Section 3.4 of the Agreement with respect to Net Sales of Product(s) are as follows:

    (i) [*] on the portion of annual Net Sales for Products less than [*];

    (ii) [*] on the portion of annual Net Sales for Products between [*] and [*], inclusive; and

    (iii) [*] on the portion of annual Net Sales for Products greater than [*].

    For the avoidance of doubt, if a Product is Covered by more than one Licensed Patent, the above royalty shall be paid only once.

2. Third Party Payments. In the event that Company or any of its Affiliates or Sublicensees obtains a license under Patent Rights of a Third Party in any country in the Territory that Company or its Affiliate or Sublicensee, on the advice of patent counsel, determines, in the absence of a license thereunder, would be considered to be Infringed by the development, manufacture, use, sale, offer for sale or import of a Product sold by Company (or its Affiliate or Sublicensee) in such country (in each case, a "**Necessary Third Party License**"), then Company may deduct [*] of the royalties actually paid to such Third Party under such Necessary Third Party License with respect to sales of such Product in such country from the royalty payments owed to Amgen pursuant to Section 2 of this Milestones and Royalties Schedule with respect to Net Sales of such Product in such country.

3. No Valid Claim. In the event that any Product is not Covered by at least one (1) Valid Claim of a Licensed Patent within the Territory, then the royalty rates set forth in Section 2(b) of this Milestones and Royalties Schedule shall be reduced by [*] for such Product.

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4. Maximum Deduction. In no event, however, shall a deduction, or deductions, in the royalty rate pursuant to Section 3 of this Milestones and Royalties Schedule and Section 4 of this Milestones and Royalties Schedule, reduce the royalty rate payable by Company on Net Sales of a given Product during a given calendar quarter pursuant to Section 2 of this Milestones and Royalties Schedule by more than [*] in the aggregate.

5. Mutual Convenience of the Parties. The royalty and other payment obligations set forth hereunder have been agreed to by the Parties for the purpose of reflecting and advancing their mutual convenience, including the ease of calculating and paying royalties and other amounts to Amgen. Company hereby stipulates to the fairness and reasonableness of such royalty and other payment obligations and covenants not to allege or assert, nor to allow any of its Affiliates or Sublicensees to allege or assert, nor further to cause or support any other Third Parties to allege or assert, that any such royalty or other payment obligations are unenforceable or illegal in any way.

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Schedule

Permitted CMOs

[*]

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Schedule

Pre-Existing Agreements

[*]

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Schedule

Press Release

[Schedule begins on following page.]

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Amgen to License Assets to Atara Biotherapeutics, Kleiner Perkins Caufield & Byers' (KPCB) Newly Formed Drug Development Company

September x, 2012, Thousand Oaks, CA — Amgen (NASDAQ: AMGN) and KPCB today announced an agreement that licenses six Amgen assets to Atara Biotherapeutics, a newly formed drug development company financed by KPCB. The in-licensed assets from Amgen are in various stages of development, from preclinical to early clinical. These drugs will form the foundation of Atara's focus on developing innovative drug therapies for patients with cancer and chronic diseases, including nephrology and oncology. Financial terms of the transaction are not being disclosed.

Atara will have facilities in both the Bay Area and Thousand Oaks, Calif., where it can help broaden the biotechnology hub around Amgen. The Atara leadership team will be comprised of individuals having previous experience from both Amgen and KPCB. Amgen will have a minority equity interest in Atara, with rights to an observer seat on Atara's Board of Directors.

> "Amgen is excited to partner with KPCB, a preeminent venture capital firm, to foster a creative business model that will help advance molecules in Amgen's pipeline to treat serious illness," said Sean E. Harper, M.D., executive vice president of Research and Development at Amgen, "The creation of Atara Biotherapeutics also provides the opportunity to further foster biotechnology innovation in Amgen's headquarters' communities."
>
> "The model for Atara will enable us to build on Amgen's research to bring a promising group of therapeutics to patients with serious illnesses, enabling them to have a better quality of life," said Dr. Isaac Ciechanover, CEO Atara Biotherapeutics (former partner at KPCB).

About Kleiner Perkins

Since its founding in 1972, Kleiner Perkins Caufield & Byers has backed entrepreneurs in more than 500 ventures including AOL, Amazon.com, Citrix, Compaq, Electronic Arts, Google, Groupon, Intuit, Juniper Networks, Netscape, Sun, Symantec, Verisign, webMD and Zynga. This also includes lifesciences companies Genentech, Genomic Health, Idec and Onyx to name a few. KPCB portfolio companies employ more than 350,000 people worldwide. More than 150 of the firm's portfolio companies have gone public, and many other KPCB ventures have achieved success through mergers and acquisitions. KPCB focuses its global investments in three practice areas - digital, greentech and life sciences - and provides entrepreneurs with company-building expertise out of its offices in Silicon Valley, Beijing and Shanghai.

About Amgen

Amgen discovers, develops, manufactures and delivers innovative human therapeutics. A biotechnology pioneer since 1980, Amgen was one of the first companies to realize the new science's promise by bringing safe, effective medicines from lab to manufacturing plant to patient. Amgen therapeutics have changed the practice of medicine, helping millions of people around the world in the fight against cancer, kidney disease, rheumatoid arthritis, bone disease and other serious illnesses. With a deep and broad pipeline of potential new medicines, Amgen remains committed to advancing science to dramatically improve people's lives. To learn more about our pioneering science and vital medicines, visit http://www.ampen.com/. Follow us on http://twittercom/amgen.

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Schedule
Products

[*]

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Schedule

Quality Agreement

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QUALITY AGREEMENT

Between

[Name of Company]

Hereafter referred to as “COMPANY”

and

AMGEN Inc.

Hereafter referred to as “AMGEN”

This Quality Agreement is intended by the Parties to set forth a plan for the quality assurance groups of AMGEN and COMPANY to work in relation to the manufacture, labeling, testing, release, shipping and storage of the Product (as defined below). By signing below, the respective quality assurance representatives acknowledge and agree to the provisions of this Quality Agreement.

Agreed and accepted for:	**Agreed and accepted for:**
[NAME OF COMPANY]	**AMGEN**
By:	By:
Printed Name:	Printed Name:
Title:	Title:
Date:	Date:

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TABLE OF CONTENTS

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1. BACKGROUND INFORMATION

1.1 AMGEN Inc. (hereinafter referred to as "AMGEN") and [Company Name] (hereinafter referred to as "COMPANY") (hereinafter referred to individually as "Party" or collectively as "Parties") have entered into an Exclusive License Agreement (the "License Agreement"), dated as of [ ], 2012, and a Supply Agreement (the "Supply Agreement"), dated as of [ ], 2012, regarding AMG 745 (the "Product") for clinical use. This Quality Agreement provides the quality requirements as specified under Section 5.4 of the License Agreement and Section 2.1 of the Supply Agreement.

1.1.1 This Quality Agreement defines the quality obligations of the Parties and their respective affiliates or approved contractors, with respect to the manufacture, labeling, testing, release, and delivery of Product in accordance with the License Agreement and Supply Agreement and the quality aspects of such Product.

2. SCOPE

2.1 The provisions of this Quality Agreement supplement the provisions of the License Agreement and Supply Agreement. The terms of the License Agreement and Supply Agreement shall remain in force and effect. In the event of any conflict between the License Agreement, or Supply Agreement, and this Quality Agreement, the License Agreement and Supply Agreement shall govern over the conflict.

2.2 This Quality Agreement may be amended only by mutual written agreement of the Parties.

2.3 Exhibits to this Quality Agreement are intended to provide additional definition to the applicable topic and, as such, should be updated to reflect the current information and business process, as applicable. Amendment of the Exhibits does not require re-approval of the Quality Agreement unless the Quality Agreement itself is affected. Exhibits and all amendments of Exhibits shall be approved by mutual written agreement of the Parties.

2.4 All activities under this Quality Agreement shall be performed in compliance with cGMP regulations.

2.5 This Quality Agreement shall expire at the termination, cancellation, or expiration, as the case may be, of the License Agreement.

3. DEFINITIONS

3.1 All capitalized terms not otherwise defined in this Quality Agreement shall have the definition set forth in the License Agreement and/or Supply Agreement.

3.2 As used in this Quality Agreement, the following terms shall have the following meanings:

Certificate of Analysis (CoA)	CoA prepared for Product representing the analytical results for the material, Certificate of the accuracy of which has been certified by AMGEN. This is an approved Analysis (CoA) record provided by AMGEN for a given batch containing the analytical test results required by the specification for the material.
Certificate of Compliance (CoC)	CoC (or QADS) prepared by AMGEN for the Product representing that the Compliance Product was manufactured according to cGMP requirements.

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Disposition Manager	AMGEN Quality Assurance staff member qualified to perform the Disposition comprehensive quality assessment and make the disposition decision for a Manager specific batch of Product.
Disposition Package	Documentation set provided to COMPANY representing AMGEN batch Disposition disposition of the Product. Documents comprising the Disposition Package are provided in Exhibit B.
Drug Substance	Shall have the meaning given in the Supply Agreement.
Drug Product	The finished dosage form of AMG745 in labeled vials delivered in Drug Product accordance with License Agreement and the Supply Agreement.
Final Release	Release of Product for distribution by COMPANY in accordance with Final Release COMPANY standard operating procedures (“SOPs”).
cGMP	All applicable laws and regulations relating to current Good Manufacturing Practices, as promulgated by the United States Food and Drug cGMP Administration (FDA), and foreign equivalents thereof as promulgated by the applicable Regulatory Authority in the European Union or Canada.
Disposition Package	Documentation set provided to COMPANY representing AMGEN batch Disposition disposition of the Product. Documents comprising the Disposition Package are provided ‘in Exhibit B.
Manufacturer’s Release	Release of Product by AMGEN, according to AMGEN’s procedures and cGMP regulations.
Manufacturing Information Schedule	The information listed under the heading “Manufacturing Information” in the Licensed Know-How Schedule attached to the License Agreement.
Material Change	A material change to the Specifications or the manufacturing process for Product, or any other material changes to the Product including the analytical methods that AMGEN uses that support performance of its obligations under the License Agreement or Supply Agreement.
Nonconformance	Deviations incurred during the manufacture, testing, or storage of the Product prior to delivery to COMPANY, which were determined by AMGEN procedures to potentially impact the safety, identity, strength, potency, or quality of the Product.
Out of Specification (OOS)	An examination, measurement or test result that does not conform with pre-established specification requirements established by the relevant Party.
Product	The Drug Substance and Drug Product manufactured by AMGEN.
Quality Assurance Disposition (QAD)	A document containing the disposition decision for a specific batch of Product.
Qualified Person (QP)	Qualified Person, as defined in 2001/83 EC and 2001/20 EC; responsible for certification of any Product batch prior to its use in a European clinical study.
Recall	A “recall” or “market withdrawal” (each as defined per Section 7.3 of Title 21 (Food and Drugs) of the Code of Federal Regulations, or, with respect to a jurisdiction other than the United States, the equivalent regulations of the applicable Regulatory Authority in such jurisdiction) of Product or any lots thereof.
Reference Sample	Sample collected from the manufacture of Product for the purpose of being analyzed, should the need arise, to support significant investigations.

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Regulatory Authority	Any government administrative agency, commission or other governmental authority, body or instrumentality, or any federal, state, local, domestic or foreign governmental regulatory body.
Reprocessing	Reprocessing shall mean introducing an intermediate or active pharmaceutical ingredient, including one that does not conform to standards or specifications, back into the process and repeating a step (e.g., filtration) that is part of the established manufacturing process.
Retention Samples	A fully packaged unit from a batch of Drug Product. It is stored for identification identification purposes.
Rework	Rework shall mean subjecting an intermediate that does not conform to one Or more processing steps that are different from the established manufacturing process to obtain acceptable quality intermediate or Product.
Specifications	AMGEN approved set of analytical methods, requirements, and acceptance criteria as used to judge the identity, purity and potency of all source materials, raw materials, and finished filled Product which comprises the material, as referenced in the Specifications Schedule.
Specifications Schedule	The Specifications Schedule attached to the License Agreement.

4. RESPONSIBILITIES

4.1 Without limiting any other provision of this Quality Agreement, the Parties agree that this Quality Agreement is intended to carry out the following guiding principles:

4.1.1 The Parties' quality obligations with respect to the manufacture, labeling, testing, release, and delivery of Product are as set forth in this Quality Agreement.

4.1.1.1 The Parties acknowledge that AMGEN shall have the right to perform responsibilities hereunder through its Affiliates (as defined in the License Agreement) and contractors.

5. COMMUNICATION

5.1 AMGEN and COMPANY agree to provide verbal communication to one another, in a timely manner, as necessary or appropriate for a given issue. Both Parties also agree to follow-up and clarify promptly in writing those important verbal communications to ensure clarity of issues.

5.2 Routine verbal and written communications required herein shall be delivered to the individuals indicated in EXHIBIT A or their delegates.

5.3 Each Party must notify the other in writing of any (potential) theft, counterfeits and illegal diversion of Product manufactured by AMGEN within twenty-four (24) hours upon awareness of such events.

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6. BATCH DISPOSITION (PRODUCT RELEASE)

6.1 AMGEN Quality Responsibility

6.1.1 AMGEN shall be responsible for the Manufacturer's Release of the material to COMPANY.

6.1.2 AMGEN shall provide to COMPANY the Disposition Package for each batch of material supplied to COMPANY, upon shipment. The documents to be included in the Disposition Package are provided in Exhibit B.

6.2 COMPANY Quality Responsibility

6.2.1 COMPANY shall be solely responsible for the Final Release of the Product for distribution within the Territory.

6.2.2 COMPANY shall be deemed to have conclusively and fully accepted the Product unless COMPANY notifies AMGEN in writing of any claim to the effect that the Product received did not meet the Specifications and/or cGMP requirements, within thirty (30) days of receipt.

6.2.3 A QP authorized by COMPANY will be responsible for certification of Product for use in clinical trials in the European Union, according to the requirements set out in the European Union cGMPs.

7. QUALITY CONTROL/TESTING

7.1 Transfer and Qualification of Analytical Testing

7.1.1 The provisions of this Section 7 supplement the terms of the License Agreement and Supply Agreement relating to the know-how and scientific and technical information needed for compliance of the Product in the United States, Canada and/or the European Union.

7.1.2 Refer to the Manufacturing Information Schedule for the transfer of analytical methods from AMGEN to COMPANY.

7.1.3 As part of such transfer, AMGEN shall provide COMPANY with reference standard and non-commercial critical reagents and supporting documentation in accordance with AMGEN policies and procedures. Refer to the Manufacturing Information Schedule for the transfers of reference standard and non-commercial critical reagents.

7.2 AMGEN Testing Responsibility

7.2.1 AMGEN will conduct testing of Product according to Specifications, methods, policies and procedures as approved by AMGEN. AMGEN shall provide the Specifications to COMPANY per the Manufacturing Information Schedule.

7.2.2 Stability Testing

7.2.2.1 AMGEN will continue the initiated stability studies of the Product per the AMGEN Stability program and provide data updates as set forth in the Manufacturing Information Schedule. As soon as practical, AMGEN will notify COMPANY of any confirmed stability failure of the Product and provide periodic updates on the OOS investigation.

7.2.2.2 AMGEN will be responsible for assigning a Product expiration date per AMGEN' s Stability program requirements.

7.3 COMPANY Testing Responsibility

7.3.1 Batch release documents will be evaluated by COMPANY upon receipt for conformance to Specifications and applicable cGMP requirements. COMPANY will not be performing additional testing to the AMGEN released batches.

8. REFERENCE SAMPLES

8.1 AMGEN shall retain Reference Samples for each manufactured batch of Product released to COMPANY per AMGEN established procedures.

8.2 The amount of samples collected will be in compliance with AMGEN policies and procedures and applicable Law.

9. RETENTION SAMPLES

9.1 COMPANY is responsible for retaining Retention Samples for each packaged batch of Product released for clinical distribution per established COMPANY procedures and applicable Law.

10. LABEL APPROVAL

10.1 Label Creation and Application

10.1.1 AMGEN will be responsible for labeling of Product that will be distributed to COMPANY according to AMGEN procedures. The label will include the following information: cautionary statement, Amgen artwork number, manufacturing date and drug product batch number.

11. RECEIVING, SHIPPING, STORAGE and DESTRUCTION

11.1 AMGEN shall make Product available for shipment to COMPANY in an appropriate manner that will assure the stability of the Product during shipment, using defined, qualified packaging configurations.

11.2 AMGEN shall ship labeled Product to COMPANY per AMGEN policies and procedures.

11.3 Upon receipt, COMPANY is responsible for reviewing tracking data, inspecting security seals and labels for evidence of tamper, and performing reconciliation of Product upon receipt of shipment per COMPANY procedures. COMPANY shall notify AMGEN within two (2) business days of becoming aware of any discrepancies.

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11.3.1 AMGEN and COMPANY will jointly investigate any discrepancies within AMGEN's defined quality systems.

11.4 COMPANY is responsible for reviewing shipping data such as temperature recording data and storage conditions upon receipt of shipment.

11.5 COMPANY is responsible for adequate storage of the Product upon receipt according to the storage requirements specified in the Specifications.

11.6 COMPANY shall be responsible for the destruction of any unused Product and material in accordance with applicable Law.

11.7 Unused cGMP materials including excipients, raw material, primary packaging components, product contacting material (e.g. resin) will be destroyed and reconciled by AMGEN per AMGEN procedures.

12. CHANGE CONTROL

12.1 Changes by AMGEN

12.1.1 AMGEN shall notify COMPANY of AMGEN's intention to implement any Material Change. The notification of such Material Change and the details of such Material Change shall be provided to COMPANY by AMGEN according to EXHIBIT C.

12.1.1.1 COMPANY's QA will respond to such notification for a Material Change within two (2) business days of receipt.

12.2 Notwithstanding anything to the contrary in this Section 12, AMGEN shall have the right to immediately make any change required to protect patient safety or as required by applicable Law and shall give COMPANY prompt written notice thereof.

13. INVESTIGATIONS OF NONCONFORMANCES, DISCREPANCIES (POST DISTRIBUTION NC'S)

13.1 If a Nonconformance, as solely determined by AMGEN, is identified after a Product batch has been shipped to COMPANY, AMGEN shall inform COMPANY as soon as reasonably possible of such Nonconformance.

13.2 AMGEN will provide support, as necessary and reasonable, to enable COMPANY to comply with applicable regulatory reporting requirements that may result from the occurrence of Nonconformances.

14. VISITS, AUDITS AND INSPECTIONS

14.1 Person-in-Plants

14.1.1 Neither Party shall have the right to have a person-in-plant in the other Party's facilities to observe operations and documentations.

14.2 For Cause Audit by COMPANY

14.2.1.1 Upon the request of COMPANY and approval by AMGEN, AMGEN shall permit COMPANY to conduct a "For Cause" audit during the Term in the case of a quality or regulatory event, which events may include recall of Product in the Territory.

14.2.1.2 Such "For Cause" audits require prior written request by COMPANY and shall be conducted during normal AMGEN business hours. The scope, agenda, and timeline for such audit must be approved by AMGEN prior to conducting the audit. The written notification must clearly state the scope of the audit and regulatory standards to be used to conduct the audit.

14.2.2 Audit Findings

14.2.2.1 At COMPANY's or AMGEN's request, an exit meeting shall be held with COMPANY and its representatives and AMGEN and its representatives to discuss audit findings, if any. COMPANY shall provide AMGEN with a copy of the audit report within thirty (30) calendar days upon completion of the audit. For those findings that AMGEN determines in good faith may materially affect AMGEN's ability to perform the Services, AMGEN shall issue a written response to COMPANY's report within thirty (30) days of AMGEN's receipt of such report. AMGEN's response shall identify the timelines and approach for addressing COMPANY's findings.

14.3 Regulatory Agency Inspections

14.3.1 COMPANY shall notify AMGEN within twenty-four (24) hours upon notification by any Regulatory Authority of any intended inspection of AMGEN's facilities or records relating to the manufacturing, testing, and storage of the Product.

14.3.2 AMGEN will be solely responsible for hosting and managing regulatory inspections at its facilities.

14.3.3 COMPANY will have the right to review and comment on AMGEN's proposed response to observations raised by the Regulatory Authorities relating to the Product and AMGEN shall consider such comments in good faith. AMGEN shall provide COMPANY with a copy of the final response after submission to any Regulatory Authorities.

14.3.6 AMGEN will inform COMPANY of any critical Regulatory Authority inspection observations not directly relevant to the Product where it can reasonably be assumed the observation impacts upon the Services or Product provided to COMPANY.

15. DISPUTE RESOLUTION

15.1 Disputes relating to non-compliance or nonconformance of Product with the Specifications shall be governed by the terms set forth in Section 11.4 of the License Agreement.

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16. CUSTOMER COMPLAINTS

16.1 COMPANY shall notify AMGEN of any complaints related to the manufacturing processes of the Product supplied by AMGEN that reasonably require an investigation under applicable Law or current practices within one (1) business day after COMPANY first becomes aware of such information.

16.2 COMPANY will use commercially reasonable efforts to provide AMGEN with information and complaint samples, or if such samples are not available, images of defects in Product, including a reasonable failure description, in order to permit proper and timely complaint investigation specifically for the corresponding defect. Upon receipt of COMPANY's investigation request, AMGEN shall perform an investigation into the root cause of the problem according to AMGEN's policies and procedures, and provide an investigation update within forty-five (45) calendar days following receipt of such notification.

16.3 Complaint investigation requests and results shall be directly communicated between COMPANY and AMGEN complaint representatives. A list of contacts shall be provided to each Party and updated in writing by each Party within a reasonable period of time after any Party changes its contact(s).

17. REPROCESSING AND REWORK

17.1 AMGEN will not conduct any Reprocessing or Reworking of materials of Product without prior approval by COMPANY.

18. RECALLS AND VOLUNTARY WITHDRAWALS

18.1 COMPANY shall have the sole right to control a Recall of the Product in the Field in the Territory; *provided* that COMPANY shall not take any action with respect to any Recall in the Field in the Territory without first notifying AMGEN and meeting (in person, by telephone or otherwise, as mutually agreed) with AMGEN (and, if so requested by AMGEN, Japan Licensee) to discuss the circumstances of such potential Recall and to consider appropriate courses of action provided that the foregoing shall not limit COMPANY's obligations in relation to Recalls under any applicable Law and COMPANY shall be entitled to take action in relation to a Recall without first notifying AMGEN where it considers such action is reasonably necessary to be taken in a time-frame that does not reasonably permit such notification (in which case it shall provide such notification promptly thereafter). COMPANY shall maintain complete and accurate records of any such Recall for such periods as may be required by Law, but in any event for no less than fifteen (15) years. AMGEN (and its licensees) shall have the sole right to control the handling of any Recall in Japan.

19. RESPONSIBLE PERSONS: CONTACT INFORMATION

19.1 The individuals listed in EXHIBIT A shall be the key points of contact between AMGEN and COMPANY relating to the rights and obligations of the Parties in this Quality Agreement.

20. GENERAL

20.1 The provisions of Sections 11.3 through 11.8 (inclusive) and 11.10 through 11.14 (inclusive) of the License Agreement are incorporated herein by reference and apply hereto *mutatis mutandis*.

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EXHIBIT A
Responsible Persons and Contact Information

COMPANY

Name	Email Address	Contact Number	Responsibility

AMGEN

Name	Email Address	Contact Number	Responsibility
Daniel Armstrong			Senior Manager, Alliance Management
Cylia Chen			Specialist, International Quality

Exhibit A Version Date: _____

Agreed and accepted for:

[COMPANY NAME]

By:
Printed Name:

Title:

Date:

Agreed and accepted for:

AMGEN

By:
Printed Name:

Title:

Date:

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EXHIBIT B
AMGEN Disposition Package

The following documents are to comprise the AMGEN Disposition Package to support the release of each Product batch to COMPANY:

General	Nonconformance List and Summary for cell banking, Drug Substance and Drug Product (Report includes only 1ot-tied nonconformances deemed by AMGEN to have a potential Nonconformance the safety, identity, strength, potency, or quality of the Product, according to established AMGEN procedures.
Drug substance manufacture	Core batch documentation for each clinical batch, including Expansion/cell culture Harvest Purification Preparation of UF/DF buffers Formulation and Final Filtration CoC/QAD, CoA
Drug Product Manufacture	Batch documentation for each clinical batch, including Sterile filtration Filling Capping and Inspection CoC, CoA

Exhibit B Version Date: _____

Agreed and accepted for:	**Agreed and accepted for:**
[COMPANY NAME]	**AMGEN**
By: Printed Name:	By: Printed Name:
Title:	Title:
Date:	Date:

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EXHIBIT C
Change Control Business Process

SOP-013477, *Amgen's Partner Change Notification Process*, governs the process by which AMGEN identifies and notifies COMPANY of changes as required per the Quality Agreement. This procedure leverages AMGEN's existing change control.

AMGEN Quality point of contact is responsible for screening changes for impact to COMPANY, notifying COMPANY of the change and recording COMPANY's assessment in AMGEN's change control management system. COMPANY is notified by the AMGEN Quality point of contact of a change through the use of a controlled form FORM-022482, *Change Notification.* The Change Notification will provide COMPANY with all relevant information regarding the proposed change thereby allowing COMPANY to fully assess the change and the impact of the change to COMPANY, including any applicable Product regulatory filing(s). COMPANY must provide a response to the change using this same form within two (2) business days from the date of receipt by COMPANY of such notification.

Exhibit C Version Date: _____

Agreed and accepted for:	**Agreed and accepted for:**
[COMPANY NAME]	**AMGEN**
By: Printed Name:	By: Printed Name:
Title:	Title:
Date:	Date:

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Exhibit 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the use in this Amendment No. 1 to Registration StatementNo. 333-196936 on Form S-1 of our report dated April 9, 2014 (July 10, 2014 as to the effect of the reverse stock split described in the first paragraph of Note 2) relating to the combined financial statements of Atara Biotherapeutics, Inc., Nina Biotherapeutics, Inc., Pinta Biotherapeutics, Inc. and Santa Maria Biotherapeutics, Inc. (collectively, the "Company") as of and for the year ended December 31, 2013, as of December 31, 2012 and for the period ended December 31, 2012, and for the period from August 22, 2012 (inception) to December 31, 2013 (which report expresses an unqualified opinion on the combined financial statements and includes an explanatory paragraph referring to the Company being in the development stage as of December 31, 2013) appearing in the Prospectus, which is part of this Registration Statement.

We also consent to the reference to us under the heading "Experts" in such Prospectus.

/s/ Deloitte & Touche LLP

San Jose, California
July 10, 2014