ANTIGENICS INC /DE/
Form 424B3
March 25, 2010
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Filed Pursuant to Rule 424(b)(3) and Rule 424(c)

Registration No. 333-150326

March 25, 2010

PROSPECTUS SUPPLEMENT NO. 22

14,000,000 SHARES OF COMMON STOCK

ANTIGENICS INC.

This prospectus supplement amends the prospectus dated March 16, 2009 (as supplemented on April 15, 2009, April 17, 2009, April 22, 2009, April 27, 2009, May 4, 2009, May 11, 2009, May 27, 2009, June 4, 2009, June 8, 2009, June 9, 2009, June 11, 2009, June 15, 2009, July 7, 2009, July 15, 2009, August 3, 2009, August 5, 2009, September 11, 2009, September 18, 2009, November 12, 2009, January 5, 2010, and February 29, 2010) to allow certain stockholders or their pledgees, donees, transferees, or other successors in interest (the Selling Stockholders), to sell, from time to time, up to 7,000,000 shares of our common stock, which they have acquired in a private placement in the United States, and up to 7,000,000 shares of our common stock issuable upon the exercise of warrants which are held by the Selling Stockholders named in the prospectus.

We would not receive any proceeds from any such sale of these shares. To the extent any of the warrants are exercised for cash, if at all, we will receive the exercise price for those warrants.

This prospectus supplement is being filed to include the information set forth in the Annual Report on Form 10-K filed on March 15, 2010, which is set forth below. This prospectus supplement should be read in conjunction with the prospectus dated March 16, 2009, Prospectus Supplement No. 1 dated April 15, 2009, Prospectus Supplement No. 2 dated April 17, 2009, Prospectus Supplement No. 3 dated April 22, 2009, Prospectus Supplement No. 4 dated April 27, 2009, Prospectus Supplement No. 5 dated May 4, 2009, Prospectus Supplement No. 6 dated May 11, 2009, Prospectus Supplement No. 7 dated May 27, 2009, Prospectus Supplement No. 8 dated June 4, 2009, Prospectus Supplement No. 9 dated June 8, 2009, Prospectus Supplement No. 10 dated June 9, 2009, Prospectus Supplement No. 11 dated June 11, 2009, Prospectus Supplement No. 12 dated June 15, 2009, Prospectus Supplement No. 13 dated July 7, 2009, Prospectus Supplement No. 14 dated July 15, 2009, Prospectus Supplement No. 15 dated August 3, 2009, Prospectus Supplement No. 16 dated August 5, 2009, Prospectus Supplement No. 17 dated September 11, 2009, Prospectus Supplement No. 18 dated September 18, 2009, Prospectus Supplement No. 19 dated November 12, 2009, Prospectus Supplement No, 20 dated January 5, 2010, and Prospectus Supplement No. 21 dated February 29, 2010, which are to be delivered with this prospectus supplement.

Our common stock is quoted on The NASDAQ Capital Market (NASDAQ) under the ticker symbol AGEN. On March 23, 2010, the last reported closing price per share of our common stock was $0.78 per share.

Investing in our securities involves a high degree of risk. Before investing in any of our securities, you should read the discussion of material risks in investing in our common stock. See Risk Factors on page 1 of the prospectus.

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

THE DATE OF THIS PROSPECTUS SUPPLEMENT NO. 22 IS MARCH 25, 2010

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

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

For the fiscal year ended December 31, 2009

or

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

For the transition period from to

Commission File Number: 000-29089

Antigenics Inc.

(exact name of registrant as specified in its charter)

Delaware	**06-1562417**
(State or other jurisdiction of incorporation or organization)	***(I.R.S. Employer Identification No.)***

3 Forbes Road, Lexington, Massachusetts 02421

(Address of principal executive offices, including zip code)

Registrant s telephone number, including area code:

(781) 674-4400

Securities registered pursuant to Section 12(b) of the Act:

Common Stock, $.01 Par Value	**The NASDAQ Capital Market**
(Title of each class)	***(Name of each exchange on which registered)***

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ¨ No þ

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No þ

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. þ

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulations S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). ¨

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 þ Non-accelerated filer ¨ Smaller reporting company ¨

(Do not check if a smaller

reporting company)

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

The aggregate market value of voting stock held by non-affiliates of the registrant as of June 30, 2009 was: $133.9 million. There were 90,948,554 shares of the registrant s Common Stock outstanding as of March 1, 2010.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement for the registrant s 2010 Annual Meeting of Stockholders, which definitive proxy statement will be filed with the Securities and Exchange Commission not later than 120 days after the registrant s fiscal year end of December 31, 2009, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K and other written and oral statements the Company makes from time to time contain certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. You can identify these forward-looking statements by the fact they use words such as could, expect, anticipate, estimate, target, may, project, intend, plan, believe, will, potential, opportunity, future and other words and terms of similar meaning and expression in connection w discussion of future operating or financial performance. One can also identify forward-looking statements by the fact that they do not relate strictly to historical or current facts. Such forward-looking statements are based on current expectations and involve inherent risks and uncertainties, including factors that could delay, divert or change any of them, and could cause actual outcomes to differ materially from current expectations. These statements are likely to relate to, among other things, our business strategy, our future research and development, our product development efforts, our ability to commercialize our product candidates, our sales and marketing activities in Russia, the timing of the introduction of our products, the effect of new accounting pronouncements, uncertainty regarding our future operating results and our profitability, anticipated sources of funds as well as our plans, objectives, expectations, and intentions. The Company has included important factors in the cautionary statements included in this Annual Report, particularly under Item 1A. Risk Factors, that the Company believes could cause actual results to differ materially from any forward-looking statement.

Although the Company believes it has been prudent in its plans and assumptions, no assurance can be given that any goal or plan set forth in forward-looking statements can be achieved and readers are cautioned not to place undue reliance on such statements, which speak only as of the date made. The Company undertakes no obligation to release publicly any revisions to forward-looking statements as a result of new information, future events or otherwise.

We have included more detailed descriptions of these risks and uncertainties and other risks and uncertainties applicable to our business in Item 1A. Risk Factors of this Annual Report on Form 10-K. We encourage you to read those descriptions carefully. We caution investors not to place significant reliance on forward-looking statements contained in this document; such statements need to be evaluated in light of all the information contained in this document. Furthermore, the statements speak only as of the date of this document, and we undertake no obligation to update or revise these statements.

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PART I

Item 1. ***Business***

Our Business

Overview

Antigenics Inc., including its subsidiaries, referred to in this Annual Report on Form 10-K as Antigenics, the Company, we, us, and our, is a biotechnology company developing and commercializing technologies to treat cancers and infectious diseases, primarily based on immunological approaches. Our most advanced product, Oncophage® (vitespen), is a patient-specific therapeutic cancer vaccine registered for use in Russia. As resources allow, we explore potential opportunities to make the product available in other jurisdictions. Oncophage has been tested in Phase 3 clinical trials for the treatment of renal cell carcinoma, the most common type of kidney cancer, and for the treatment of metastatic melanoma. It has also been tested in Phase 1 and Phase 2 clinical trials in a range of indications and is currently in Phase 2 clinical trials in glioma, a type of brain cancer. Our product candidate portfolio also includes (1) QS-21 Stimulon® adjuvant, or QS-21, which is used in numerous vaccines in third-party clinical trials as advanced as Phase 3 for a variety of diseases, including hepatitis, human immunodeficiency virus, influenza, cancer, Alzheimer s disease, malaria, and tuberculosis, (2) AG-707, a therapeutic vaccine program tested in a Phase 1 clinical trial for the treatment of genital herpes, and (3) Aroplatin, a liposomal chemotherapeutic tested in a Phase 1 clinical trial for the treatment of solid malignancies and B-cell lymphomas. Further internal clinical development of AG-707 and Aroplatin is currently on hold due to cost-containment efforts. Our business activities have included product research and development, intellectual property prosecution, manufacturing, regulatory and clinical affairs, corporate finance and development activities, market development, and support of our collaborations.

Our common stock is currently listed on The NASDAQ Capital Market under the symbol AGEN.

On December 30, 2009, we were notified by the Listing Qualifications Staff of NASDAQ (the Staff) indicating that we are not in compliance with Nasdaq Marketplace Rule 5550(a)(2) (the Bid Price Requirement) because the bid price for our common stock has closed below the minimum $1.00 per share requirement for 30 consecutive business days. In accordance with Nasdaq Marketplace Rule 5810(c)(3)(A), we have been provided 180 calendar days, or until June 28, 2010, to regain compliance with the Bid Price Requirement. To regain compliance with the minimum bid price continued listing requirement, the bid price of our common stock must close at $1.00 per share or more for a minimum of ten consecutive business days. The Staff may, in its discretion, extend the timeline beyond the minimum ten consecutive business days.

Our Products Under Development

Introduction

Oncophage is a patient-specific therapeutic cancer vaccine that is based on a heat shock protein called gp96 and has been tested in Phase 3 clinical trials for the treatment of renal cell carcinoma and for the treatment of metastatic melanoma. It has also been tested in Phase 1 and Phase 2 clinical trials in a range of indications and is currently in Phase 2 clinical trials in glioma. It is currently registered for use in Russia for the treatment of kidney cancer patients at intermediate risk for disease recurrence. Oncophage has received Orphan Drug status for renal cell carcinoma and glioma from the European Medicines Agency (EMEA). Oncophage has also received Orphan Drug designation from the U.S. Food and Drug Administration (FDA) for both renal cell carcinoma and metastatic melanoma.

We believe that the collective results from our clinical trials thus far show that Oncophage has a favorable safety profile. The most common side effects have been mild to moderate injection site reactions and transient constitutional symptoms such as fatigue, headache, and fever. We also believe that available results from clinical trials suggest that treatment with Oncophage can generate immunological and anti-tumor responses. We believe that this human data further supports the broad applicability and corresponding commercial potential of our heat shock protein product candidates.

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QS-21 is an investigational adjuvant being studied in both therapeutic and prophylactic vaccines. An adjuvant is a substance added to a vaccine or other immunotherapy that is intended to enhance immune response. A number of pharmaceutical and biotechnology companies have licensed QS-21 for use in vaccines to treat or prevent a variety of human diseases. Companies that utilize QS-21 in their programs include GlaxoSmithKline Biologicals SA (GSK) and JANSSEN Alzheimer Immunotherapy, a subsidiary of Johnson & Johnson. In return for rights to use QS-21, our QS-21 licensees have generally agreed to pay us license fees, manufacturing payments, milestone payments, and royalties on product sales for a minimum of 10 years after commercial launch. In addition to our corporate licensing arrangements, we have developed, and continue to develop, a number of academic collaborations to test new vaccine concepts and products containing QS-21. There are approximately 15 vaccines currently in clinical development that contain QS-21.

AG-707 is our therapeutic vaccine program for the treatment of genital herpes. AG-707 is a multivalent vaccine (a vaccine that addresses multiple components of the virus) that consists of a heat shock protein (Hsc70) associated with multiple synthetic herpes simplex virus-2 peptides. Based on the results of completed toxicology studies and other preclinical activities, we initiated a multicenter Phase 1 clinical trial of AG-707 in genital herpes in 2005. Immunological testing in this study has been completed and final study data review is in process. Further work on this program is on hold due to cost containment efforts. However, we would consider licensing and/or co-development opportunities to advance this product.

Aroplatin is a novel liposomal third-generation platinum chemotherapeutic. Platinum chemotherapeutics are cancer drugs containing the metallic element platinum, which has been shown to have some anti-cancer effects. In the case of Aroplatin, the active platinum drug component is encapsulated in a liposome. We have studied Aroplatin in two Phase 1 trials of patients with colorectal cancer and other solid malignancies and in one Phase 2 trial of patients with advanced colorectal cancer unresponsive to medical treatment. In October 2005, we initiated a Phase 1, dose-escalation trial of Aroplatin in advanced solid malignancies and B cell lymphoma. In collaboration with the trial investigators, we have determined that the maximum tolerated dose of Aroplatin has been reached in this study. Based on this result, the trial has been closed. We have reviewed the results from this trial with our medical advisors and decided not to pursue internal development of Aroplatin at the present time. This decision is further supported by our cost containment efforts. We would consider licensing and/or co-development opportunities to advance this product.

For the years ended December 31, 2009, 2008, and 2007, our research and development costs were approximately $16.9 million, $20.7 million, and $21.8 million, respectively.

Heat Shock Protein Technology

Heat shock proteins, also known as HSPs, are also called stress proteins, as their expression is increased when cells experience various stresses like extremes of temperature (hot or cold) and oxygen deprivation. HSPs are present in all cells in all life forms from bacteria to mammals, and their structure and function are similar across these diverse life forms. Under normal conditions, HSPs play a major role in protein folding and transport of protein fragments called peptides within a cell, and are thus also known as chaperones. Antigenic peptides, those portions of a protein that stimulate immune responses when recognized by the immune cells, are also transported by these chaperones. Because HSPs interact with and bind many cellular proteins and peptides, they chaperone a broad array of antigenic peptides to facilitate their recognition by the immune system. Thus, HSPs play an integral role in capturing and presenting the antigenic fingerprint of a cell to a host s immune system.

Although HSPs are normally found inside cells, they also provide important danger signals when found outside of cells. Detection of HSPs outside of cells is indicative that cell death has occurred. This may have been caused by disease, mutation, or injury, whereby a cell s contents are spilled into body tissue. These HSPs send powerful danger signals to the immune system that initiate a cascade of events capable of generating a targeted immune response against the infection or disease-related cell death.

Combined, these functions of HSPs form the basis of our technology. The chaperoning nature of HSPs allows us to produce vaccines containing the antigenic fingerprint of a given disease. In the case of cancer, the

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vaccines are patient-specific, consisting of heat shock protein-peptide complexes, also known as HSPPCs, purified from a patient s tumor cells. These HSPPCs, when injected into the skin, are expected to stimulate a powerful cellular immune response potentially capable of targeting and killing the cancer cells from which these complexes were derived. Because cancer is a highly variable disease from one patient to another, due to rapid mutation of cancer cells, we believe that a patient-specific vaccination approach is required to generate a more robust and targeted immune response against the disease.

For certain diseases, such as genital herpes, we do not believe that a personalized vaccination approach is required, since the pathogen does not vary as greatly from patient to patient as do cancer cells. For example, in our AG-707 product candidate for the treatment of genital herpes, we complex, or bind, several defined antigenic herpes peptides to an HSP (Hsc70) that we genetically engineer, creating an HSPPC. This HSPPC, when injected into the skin, is designed to elicit a cellular immune response to the synthetic peptides carried by the HSP.

Product Development Portfolio

Oncophage

Introduction

Oncophage is a patient-specific therapeutic cancer vaccine registered for use in Russia for the treatment of kidney cancer patients at intermediate risk for disease recurrence. In 2008 we submitted a marketing authorization application (MAA) to the EMEA requesting approval for Oncophage in earlier-stage, localized kidney cancer under the conditional authorization provision. After its review, the Committee for Medicinal Products for Human Use (CHMP) of the EMEA adopted a negative opinion on our application and subsequently we withdrew our application. Oncophage has been tested in Phase 3 clinical trials for the treatment of renal cell carcinoma, the most common type of kidney cancer, and for the treatment of metastatic melanoma. Oncophage has also been tested in Phase 1 and Phase 2 clinical trials in a range of indications and is currently in Phase 2 clinical trials in glioma, a type of brain cancer. Each Oncophage vaccine is made from a patient s tumor tissue. After a surgeon removes a patient s tumor, a portion of that tumor tissue is frozen and shipped to our manufacturing facility. In our Phase 3 trials, we have required a minimum of five to seven grams of tumor tissue to yield a sufficient amount of Oncophage for clinical use.

Using a proprietary manufacturing process that takes approximately eight to 10 hours per individual patient lot, we isolate the HSPPCs from the tumor tissue. Through this isolation process, the HSPPCs are extracted, purified, and sterile filtered from the tumor tissue, then formulated in solution and packaged in standard single-injection vials. After the performance of quality control testing, including sterility testing, we ship Oncophage frozen back to the hospital or clinic for administration. A medical professional administers Oncophage by injecting the product into the skin weekly for four weeks and every other week thereafter until that patient s supply of Oncophage is depleted.

Although we believe that our technology is applicable to all cancer types, our initial focus with Oncophage is on cancers that have poor or no available treatment options and that typically yield sufficient quantities of tumor tissue from the surgical procedure to allow for manufacture.

Since our first patient enrolled in a clinical trial studying Oncophage in 1997, we have treated nearly 800 cancer patients with Oncophage in our clinical trials. Because Oncophage is a novel therapeutic cancer vaccine that is patient-specific, meaning it is derived from the patient s own tumor, it may experience a long regulatory review process and high development costs, either of which could delay or prevent our commercialization efforts. For additional information regarding regulatory risks and uncertainties, please read the risks identified under Risk Factors.

We believe that the collective results from our clinical trials thus far show that Oncophage has a favorable safety profile. We also believe that available results from clinical trials suggest that treatment with Oncophage can generate immunological and anti-tumor responses.

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Oncophage Clinical Programs

Early-Stage Clinical Trials

The following table summarizes the results, where available, from the key ongoing or completed Phase 1, Phase 1/2, and Phase 2 trials to date. These results include complete disappearance (a complete response), substantial shrinkage (partial response), minor shrinkage (minor response), or no change in the size (disease stabilization) of tumor lesions.

Indication (Protocol)	Phase	Patients Treated	Trial Median TTP or Median OS	Trial Results
Metastatic renal cell carcinoma	1/2	38	TTP: 2.9 m	1 complete response
(C-100-03)			OS: 15 m	2 partial responses
				9 disease stabilizations
				1 patient alive at >5 y
Metastatic renal cell carcinoma	2	72	OS: 16 m	Of 58 evaluable patients:
(C-100-07)				2 complete responses
				2 partial responses
				1 minor response
				7 disease stabilizations
				6 patients alive at >4.9 y; 1 of them alive >5.4 y
Metastatic melanoma	1/2	45	OS: 1.3 y	1 complete response
(C-100-06)				9 disease stabilizations
				3 patients alive at 4 y
				1 patient alive at 4.7 y
Locally advanced/metastatic melanoma	1/2	36	OS: 2.1 y	1 patient alive at 6 y
(C-100-02)				10 patients alive at 5 y
Recurrent, high-grade glioma	1/2	12	OS: 10.5 m (from time of recurrence)	Phase 1 portion of study completed:
(C-100-34)				12 patients demonstrated significant tumor-specific immune response
Investigator-reported data				11/12 patients survived more than 6.5 m from time of recurrence
				Phase 2 portion is designed to enroll 30 patients

Stage I/II/IIIA non-small cell lung cancer (C-100-26)	2	10	Study closed to enrollment; data collection ongoing	Study closed to enrollment; data collection ongoing
Liver metastases from colorectal cancer (C-100-05)	2	40	OS: 2.9 y	1 patient alive at 4.9 y 11 patients alive at 4 y At 3.5 y, 78% of patients with tumor-specific T cell response were alive vs. 17% of patients without
Resectable gastric cancer (C-100-04)	1/2	20	OS: 2.9 y	1 patient alive at 5 y 2 patients alive at 4 y
Indolent non-Hodgkin s lymphoma (C-100-09)	2	17	TTP: 5.8 m	Of 12 evaluable patients: 1 disease stabilization
Resectable pancreatic cancer (C-100-01)	1	11	OS: 2.2 y	Of 10 evaluable patients: 1 patient alive at 5 y 2 patients alive at 2.6 y

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TTP: time to tumor progression

OS: overall survival

m: months

y: years

Phase 3 Renal Cell Carcinoma Program

Renal cell carcinoma is the most common type of kidney cancer. The American Cancer Society estimated that there would be 57,760 new cases of kidney cancer and 12,980 people would die from the disease in the United States in 2009. The Kidney Cancer Research Bureau, a Russian non-profit, non-government research organization, estimated that in 2008, approximately 16,000 Russians would be diagnosed with kidney cancer and approximately 50% of those diagnosed would die of the disease. A publication in the Oxford Journals estimates there were 63,300 new cases of kidney cancer in the European Union in 2006. Renal cell carcinoma accounts for about 90 percent of all kidney tumors. The current standard of care for patients with non-metastatic renal cell carcinoma consists of nephrectomy, meaning the surgical removal of the kidney, followed by observation. For patients with metastatic disease, FDA-approved treatments include intravenous high-dose interleukin-2, or IL-2, Nexavar (sorafenib), Sutent (sunitinib), and Torisel (temsirolimus).

We initiated a Phase 3, multicenter, international trial for non-metastatic renal cell carcinoma in 2000 into which the first patient was randomized in February 2001. The FDA has indicated that, by itself, part I of our Phase 3 clinical trial in renal cell carcinoma is not sufficient to support a biologics license application (BLA) filing.

On March 24, 2006, we announced top-line results from part I of our Phase 3 study of Oncophage in renal cell carcinoma patients who are at high risk of recurrence after surgery, and disclosed that the trial did not meet its primary endpoint of recurrence free survival (RFS) in the intent to treat population. We subsequently announced the termination of part II of the Phase 3 trial. The analysis was triggered based on the number of events (defined as recurrence of disease or death of a patient prior to recurrence) reported by study investigators. However, an independent review by the trial s Clinical Events Committee revealed that substantially fewer events had actually occurred.

We conducted in-depth analyses of data from part I of our Phase 3 study of Oncophage in renal cell carcinoma and in June 2006, we announced the findings of an analysis that showed significant improvement ($P < 0.05$ and hazard ratio of 0.567) in favor of the Oncophage arm for RFS in a subgroup of better-prognosis patients who were at intermediate risk of recurrence. We continued to collect data per the protocol through March 2007, and in May 2007, we announced additional follow-up data. The end-of-study results, which reflected an additional 17 months data collection, showed that in the intent-to-treat population, no statistically significant difference was found between the Oncophage and the observation arms. In the subset of better-prognosis patients (n = 362) at intermediate risk for disease recurrence, patients in the Oncophage arm continued to demonstrate significant improvement in RFS of approximately 45 percent ($P < 0.01$ and hazard ratio of 0.55).

The Eastern Cooperative Oncology Group is currently sponsoring a large adjuvant renal cell carcinoma trial that stratifies patients by certain prognostic risk factors for recurrence, and puts patients into intermediate risk, high risk, and very high risk recurrence categories. We are able to apply these definitions to the data generated as part of our Phase 3 trial of Oncophage in renal cell carcinoma and it is in the intermediate risk, or better-prognosis population, where significant improvement in favor of the Oncophage arm was demonstrated. The results of the trial were published in *The Lancet* in July 2008.

We have opened a subsequent protocol that will continue to follow patients in the format of a registry in order to collect overall survival information, as well as investigator reports of disease recurrence. The registry,

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which is expected to provide additional data on the effectiveness of Oncophage, followed patients until March 2010, an additional three years from closure of the initial trial, providing more than five years of data collection following the enrollment of the last patient in the trial. At the 2009 American Society of Clinical Oncology (ASCO) annual meeting, we announced results of an interim analysis from the ongoing global patient survival registry, which showed that patients with kidney cancer at intermediate risk of disease recurrence demonstrated an approximately 46 percent lower risk of death when treated with Oncophage cancer vaccine after surgery compared with no treatment (n = 362; *P < 0.05*; hazard ratio = 0.54). In addition to the patient registry, we are in the early initiation phase of a small study in non-metastatic renal cell carcinoma to assess immune response in the intermediate risk patient population. The results of this study, continued data collection through the survival registry, and ongoing analysis are uncertain, and may not positively affect the acceptability of the overall results of the trial and, even if clinically meaningful, may not meet the requirements of the FDA or other regulatory authorities for submission and approval of a marketing application or similar applications for product approval outside the United States.

In April 2008, the Russian Ministry of Public Health issued a registration certificate for the use of Oncophage for the treatment of kidney cancer patients at intermediate risk for disease recurrence and, in September 2008, the FDA granted the necessary permission to allow for the export of Oncophage from the United States for patient administration in Russia. The Russian registration was our first product approval from a regulatory authority, and the first approval of a patient-specific therapeutic cancer vaccine in a major market. Since this approval we have been focusing our efforts in Russia on pre-commercial launch activities.

Our distributor has obtained an import/export license from the Russian Ministry of Industry and Trade, but prior to commercial launch, we or our distributor, or other service providers, must also complete a number of post approval activities. Since Oncophage can only be manufactured from a patient s own tumor, patients will need to be diagnosed, and their tumors will need to be removed and sent to our manufacturing facility in Massachusetts for vaccine to be prepared, released, and then returned to the site for patient administration. Complexities unique to the logistics of commercial products may delay shipments and limit our ability to move commercial product in an efficient manner without incident. In addition, if we are unable to establish and execute on successful local distribution arrangements including favorable pricing and payment terms, and/or implement appropriate logistical processes for distribution of Oncophage, our commercialization efforts will be adversely affected.

Even if we successfully meet the logistical and regulatory requirements for Russian launch, the amount of revenue generated, if any, from the sale of Oncophage in Russia will depend on, among other things, identifying sources of reimbursement and obtaining adequate reimbursement, including from national or regional funds, and physician and patient assessments of the benefits and cost-effectiveness of Oncophage. If we are unsuccessful in obtaining substantial reimbursement for Oncophage from national or regional funds, we will have to rely on private-pay for the foreseeable future, which may delay or prevent our launch efforts because the ability and willingness of patients to pay is unclear. Many patients will not be capable of paying for Oncophage by themselves. In addition, cost-containment measures by third parties may prevent us from becoming profitable. Because, among other things, we have limited resources and minimal sales and marketing experience, commercial launch of Oncophage may be slow. Furthermore, we may experience significant delays in the receipt of payment for Oncophage, or an inability to collect payments at all.

In October 2008, we announced the submission of a MAA to the EMEA requesting conditional authorization of Oncophage in earlier-stage, localized kidney cancer. On October 20, 2009, the CHMP of the EMEA informed us at an oral hearing to anticipate a negative opinion on this MAA. After its review, the CHMP formally adopted a negative opinion on our application. We are currently evaluating our options to determine the best path forward with Oncophage in this territory. We do not know what impact, if any, this opinion will have on our Russian activities.

In addition, we are exploring the steps necessary to seek approval of Oncophage in other markets directly or through one or more partnering arrangements. This exploration process includes formal and informal discussions

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with international regulatory authorities, key opinion leaders, and consultants and potential partners with country-specific regulatory experience regarding potential applications for full or conditional marketing approvals and/or named patient programs. There is no guarantee that we will succeed in making Oncophage available in these markets.

Melanoma

Melanoma is the most serious form of skin cancer. According to the American Cancer Society, melanoma accounts for only about three percent of skin cancer cases, yet it causes most skin cancer deaths. The American Cancer Society also estimated that physicians would diagnose 68,720 new cases of melanoma and 8,650 deaths from melanoma in the United States in 2009. The incidence of melanoma is growing at a rate of approximately three percent per year based on a report from the American Cancer Society.

Oncologists treat advanced or metastatic melanoma, also known as stage III or stage IV melanoma, with surgery, radiation therapy, immunotherapy, or chemotherapy, depending on the case. Approximately 15% of all melanoma patients at the time of their first diagnosis have stage III or stage IV disease. Existing treatments have not significantly improved overall survival of patients with metastatic melanoma. The median survival time of patients with stage III melanoma varies widely according to published literature. According to published literature, the median survival time of patients with late-stage III melanoma is about 24 months and patients with stage IV melanoma have a median survival time of about seven months. Although oncologists use various treatments, the only FDA-approved therapies for patients with metastatic melanoma are high-dose intravenous IL-2 and alpha interferon, another human cytokine.

Oncophage has received Orphan Drug status from the FDA for the treatment of metastatic melanoma. During the quarter ended September 30, 2004, we completed enrollment of our Phase 3 trial in metastatic melanoma. Our overall manufacturing success rate for this trial was approximately 70%, and as a result of the relatively high failure rate, during 2004 we indicated that we did not believe this trial would qualify as registrational. At the 2009 annual meeting of ASCO we presented this phase 3 trial noting patients who received at least 10 doses of vaccine (44 patients) experienced an extension in median survival of 29 percent compared with those who received physician s choice (72 patients; 16.5 months vs. 12.8 months, respectively; hazard ratio = 0.749; nominal, one-sided *P* value = 0.130). A more pronounced effect was observed in M1a and M1b patients who received at least 10 vaccines (25 patients) compared with those who received physician s choice (33 patients), with an improved survival of 31.2 months vs. 12.8 months, respectively (hazard ratio = 0.452; nominal, one-sided *P* value= 0.017). The Phase 3 metastatic melanoma trial results were published in the February 20, 2008 issue of the *Journal of Clinical Oncology*. No additional studies in metastatic melanoma are planned at this time.

Glioma

Glioma is a cancer affecting the central nervous system that begins in glial cells (connective tissue cells that surround and support nerve cells). Malignant glioma is currently a fatal disease. The American Cancer Society estimated that 22,070 new cases of the brain and other nervous system cancers would be diagnosed during 2009 in the United States, and that about 12,920 people would die from these tumors.

A Phase 1/2 clinical trial in recurrent, high-grade glioma is currently ongoing. This study is being lead by the Brain Tumor Research Center at the University of California, San Francisco (UCSF), with grants from the American Brain Tumor Association and the National Cancer Institute Special Programs of Research Excellence. Phase 1 results, presented at the Society for Neuro-Oncology Annual Meeting Conference in November 2008, showed that Oncophage vaccination following brain cancer surgery increased overall median survival to approximately 10.5 months, with four patients surviving beyond 12 months and one patient surviving almost 2.5 years. The study also showed that all 12 treated patients demonstrated a significant immune response after vaccination with Oncophage ($P < 0.001$) and that patients with minimal residual disease at time of first vaccination (n = 7) were more likely to survive beyond nine months compared with patients with significant residual disease.

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The study has progressed to Phase 2, which is designed to enroll 60 patients, and has expanded to include New York-Presbyterian Hospital/Columbia University Medical Center. Interim data from the Phase 2 portion was presented at the Society for Neuro-Oncology meeting in October 2009 which showed a median survival of 10.1 months in the first 20 patients treated with Oncophage, and that to date six patients (30 percent) had survived at or beyond 12 months. This early data shows an improvement in overall survival over the previous long-standing historical median survival of 6.5 months, and is also slightly favorable to the recently reported median survival of 9.2 months with Avastin® (bevacizumab) in patients with recurrent high-grade glioma. UCSF also recently initiated an additional Phase 2 clinical trial in newly diagnosed glioma testing Oncophage in combination with Temodar® (temozolomide).

Oncophage Manufacturing

Oncophage is manufactured in our Lexington, Massachusetts facility. We estimate that the facility s current capacity for Oncophage is approximately 10,000 patient courses per year, expandable to approximately 200,000 patient courses per year, by building-out available space, adding second and third shifts, and automating various functions. On average, it takes eight to 10 hours of direct processing time to manufacture a patient batch of Oncophage.

After manufacturing, Oncophage is tested and released by our quality systems staff. The quality control organization performs a series of release assays designed to ensure that the product meets all applicable specifications. Our quality assurance staff also reviews manufacturing and quality control records prior to batch release in an effort to assure conformance with current Good Manufacturing Practices, also known as cGMP, as mandated by the FDA and foreign regulatory agencies.

Our Oncophage manufacturing staff is rigorously trained and routinely evaluated for conformance to manufacturing procedures and quality standards. This oversight is intended to ensure compliance with FDA and foreign regulations and to provide consistent vaccine output. Our quality control and quality assurance staff is similarly trained and evaluated as part of our effort to ensure consistency in the testing and release of the product, as well as consistency in materials, equipment, and facilities.

QS-21

Introduction

QS-21 is an adjuvant, or a substance added to a vaccine or other immunotherapy that is intended to enhance the body s immune response to the antigen contained within the treatment. QS-21 is best known for its ability to stimulate antibody, or humoral, immune response, and has also been shown to activate cellular immunity. A natural product, QS-21 is a triterpene glycoside, or saponin, a natural compound purified from the bark of a South American tree called Quillaja saponaria. It is sufficiently characterized with a known molecular structure, thus distinguishing it from other adjuvant candidates, which are typically emulsions, polymers, or biologicals.

QS-21 has been tested in approximately 185 clinical trials involving, in the aggregate, over 12,000 subjects in a variety of cancer indications, infectious diseases, and other disorders. These studies have been carried out by academic institutions and pharmaceutical companies in the United States and internationally. A number of these studies have shown QS-21 to be significantly more effective in stimulating antibody responses than aluminum hydroxide or aluminum phosphate, the adjuvants most commonly used in approved vaccines in the United States today.

Partnered QS-21 Programs

A number of pharmaceutical and biotechnology companies have licensed QS-21 from us for use in vaccines to treat a variety of human diseases. Companies with QS-21 programs include GSK and JANSSEN Alzheimer Immunotherapy. In return for rights to use QS-21, these companies have generally agreed to pay us license fees,

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manufacturing payments, milestone payments, and royalties on product sales for a minimum of 10 years after commercial launch. In addition to our corporate licensing arrangements, we have developed a number of academic collaborations to test new vaccine concepts and products containing QS-21. There are approximately 15 vaccines currently in clinical development that contain QS-21.

GSK. In July 2006, we entered into a license agreement and a supply agreement with GSK for the use of QS-21. On July 20, 2007, we executed a letter of intent with GSK amending the supply agreement to accelerate GSK s commercial grade QS-21 manufacturing rights. Pursuant to the terms of the letter agreement, GSK obtained the right to manufacture all of its requirements of commercial grade QS-21 and, upon our election, is obligated to supply us (or our affiliates, licensees, or customers) certain quantities of commercial grade QS-21 for a stated period of time. On January 16, 2009, we entered into an Amended and Restated Manufacturing Technology Transfer and Supply Agreement (the Amended GSK supply agreement) reflecting the provisions of the July 20, 2007 letter agreement. To date, we have received $8.8 million of a potential $15.3 million in upfront and milestone payments related to these agreements. Furthermore, under both the license and the supply agreements, we are entitled to receive low single-digit royalties on net sales of resulting products for a period of at least 10 years after the first commercial sale. The agreements may be terminated by either party upon a material breach if the breach is not cured within the time specified in the agreement. The termination or expiration of the GSK license agreement does not relieve either party from any obligation which accrued prior to the termination or expiration. Among other provisions, the milestone payment obligations survive termination or expiration for any reason, and the license rights granted to GSK survive expiration of the GSK license agreement. The license rights and payment obligations of GSK under the Amended GSK supply agreement survive termination or expiration, except that GSK s license rights and future royalty obligations do not survive if we terminate due to GSK s material breach unless we elect otherwise.

We understand that QS-21 is a key component included in several of GSK s proprietary adjuvant systems and that a number of GSK s vaccine candidates currently under development are formulated using adjuvant systems containing QS-21. GSK has initiated Phase 3 studies evaluating its investigational MAGE-A3 Antigen-Specific Cancer Immunotherapeutic containing QS-21 in non-small cell lung cancer and melanoma. GSK has also initiated a Phase 3 clinical trial in malaria.

Elan/Janssen Alzheimer s Immunotherapy. In November 1999, we entered into license and supply agreements (the Prior Agreements) with Elan Pharmaceuticals International Limited (Elan) for the use of QS-21 in the research and commercialization of products. Under the terms of the Prior Agreements, Elan had the right to develop, make, have made, use, sell, offer for sale, import, and have sold Elan s Alzheimer s disease vaccine that contains QS-21 (Licensed Product), and we had the exclusive right and obligation to supply Elan with QS-21 for use in the Licensed Product. In addition, under the terms of the Prior Agreements, we were entitled to receive future milestone payments and product royalties in the event of the successful development of the Licensed Product for a period of at least 10 years after the first commercial sale of such product, if any. In 2007, Elan initiated a Phase 2 study of its vaccine. We have received $3.0 million in upfront and milestone payments related to the Prior Agreements.

Effective September 14, 2009, we entered into an Amended and Restated License Agreement (Amended License Agreement) with Elan. On September 17, 2009, the Amended License Agreement was assigned to JANSSEN Alzheimer Immunotherapy, a subsidiary of Johnson & Johnson. Under the terms of the Amended License Agreement assigned to JANSSEN Alzheimer Immunotherapy, they will have the right to develop, make, have made, use, sell, offer for sale, import, and have sold, the Licensed Product. In addition, pursuant to the terms of the Amended License Agreement, JANSSEN Alzheimer Immunotherapy has the right to manufacture all of its requirements of QS-21 for use in the Licensed Product and we have no further supply obligations. Assuming all benchmarks are met under this agreement, we could receive up to $11.5 million in future milestone payments, and $1.1 million has been received as of December 31, 2009. Furthermore, under the terms of the Amended License Agreement, we are entitled to receive middle single-digit royalties on net sales of Licensed Product for a period of at least 10 years after the first commercial sale of such product, if any. Expiration or

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termination of the Amended License Agreement is without prejudice to any rights that accrued to the benefit of the parties prior to the date of such expiration or termination. Upon expiration of the Amended License Agreement, JANSSEN Alzheimer Immunotherapy will have a royalty-free license. Upon early termination of the Amended License Agreement, JANSSEN Alzheimer Immunotherapy s license rights terminate and future payment obligations do not accrue.

Manufacturing

Except in the case of GSK and JANSSEN Alzheimer Immunotherapy, we have retained worldwide manufacturing rights for QS-21. We have the right to subcontract manufacturing for QS-21 and we have a supply agreement for the production of QS-21 through September 2010. In addition, under the terms of our agreement with GSK, GSK is contractually committed to supply certain quantities of commercial grade QS-21 to us and our licensees in the future.

AG-707

AG-707 is an investigational therapeutic vaccine product candidate directed at the virus that causes genital herpes (herpes simplex virus-2, or HSV-2) and is the first potential off-the-shelf application of our heat shock protein technology. AG-707 is a multivalent vaccine containing multiple synthetic HSV-2 peptides.

Data from a 2005-2008 study of the Centers for Disease Control and Prevention, estimates 16.2% of people 14 to 49 years of age in the U.S. have HSV-2 infection. The World Health Organization estimated in 2003 that approximately 23.6 million people aged 15 to 49 worldwide are infected each year with HSV-2. Genital herpes is currently treated with palliative topical drugs or antiviral agents that reduce further replication of the virus during the period of treatment.

Based on the results of completed toxicology studies and other preclinical activities, we submitted to the FDA an investigational new drug application (IND) for AG-707 during the second quarter of 2005. In October 2005, we initiated a multicenter Phase 1 clinical trial of AG-707 in genital herpes. Immunological testing in this study has been completed and final study data review is in process. Further internal work on this program is on hold due to cost containment efforts. However, we would consider licensing and/or co-development opportunities to advance the product.

Aroplatin

Aroplatin is a novel liposomal formulation of a third-generation platinum chemotherapeutic structurally similar to Eloxatin (oxaliplatin; Sanofi Aventis), a treatment for colorectal cancer. Anti-tumor activity has been demonstrated in over 10 tumor cell lines.

Platinum chemotherapeutics are cancer drugs containing the metallic element platinum, which has been shown to have some anti-cancer effects. Published results that demonstrate activity of Aroplatin against tumor cells resistant to cisplatin and carboplatin suggest that Aroplatin may be useful in cancers that are already resistant to platinum agents. Aroplatin is formulated in liposomes, a round shell of phospholipids, which are basic components of human cell membranes. Liposome formulation has been shown to increase drug bioavailability, or the amount of time and specific distribution within the body, which can extend the treatment effect. In some cases, liposomal drugs have been shown to accumulate at the site of a tumor, delivering higher concentrations of the drug to a disease target. The liposomal delivery system can also help to reduce the damaging effects of some drugs on healthy tissues.

In October 2005, we initiated a Phase 1, dose-escalation trial of a new formulation of Aroplatin in advanced solid malignancies and B cell lymphoma. In collaboration with the trial investigators, we have determined that the maximum tolerated dose of Aroplatin has been reached in this study. Based on this result, the trial has been

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closed. We have reviewed the results from this trial with our medical advisors and have decided not to pursue internal development of Aroplatin at the present time. However, we would consider licensing and/or co-development opportunities to advance the product.

Preclinical Activities

We continue with product characterization efforts to better define the complex structure of Oncophage. These efforts are made more challenging by the autologous nature of Oncophage. In addition, we are developing methods that will assess the intensity of immunological responses following vaccination with Oncophage. We expect to continue these efforts during 2010.

Intellectual Property Portfolio

We seek to protect our technologies through a combination of patents, trade secrets and know-how. We currently have exclusive rights, through outright ownership or through exclusive licenses, to 75 issued United States patents and 108 issued foreign patents. We also have exclusive rights to 10 pending United States patent applications and 54 pending foreign patent applications. However, we currently do not have any issued patents in Russia covering Oncophage and we may not have rights to Oncophage patents in other territories where we may pursue regulatory approval.

Our issued patents include those that cover our core technologies including (i) HSPs such as Oncophage for treatment of cancers; (ii) HSPs such as AG-707 for treatment of infections; (iii) saponin adjuvants such as QS-21; and (iv) liposomal drugs, including Aroplatin.

The issued patents to Oncophage expire at various dates between 2015 and 2017. The issued patents to AG -707 expire at various dates between 2014 and 2017. Our patent to purified QS-21 expired in most territories in 2008. Additional protection for our QS-21 proprietary adjuvant in combination with other agents is provided by our other issued patents which expire between 2016 and 2019. Our license and supply agreements for QS-21 would typically provide royalties for at least 10 years after commercial launch. However, there is no guarantee that we will be able to collect royalties in the future. The issued patents to Aroplatin expire at various dates between 2011 and 2020.

Various patents and patent applications have been exclusively licensed to us by the following entities:

Mount Sinai School of Medicine

In November 1994, we entered into a patent license agreement with the Mount Sinai School of Medicine (the Mount Sinai Agreement). Through the Mount Sinai Agreement, we obtained an exclusive worldwide license to patent rights relating to the heat shock protein technology that resulted from the research and development performed by Dr. Pramod Srivastava, our founding scientist and a former member of our Board of Directors. We agreed to pay Mount Sinai a royalty on the net sales of products covered by the licensed patent rights and also provided Mount Sinai with a 0.45% equity interest in the Company (approximately 62,000 shares) valued at approximately $90,000 at the time of issuance. The term of the Mount Sinai Agreement ends when the last of the licensed patents expires (2018) or becomes no longer valid. If we fail to pay royalties that are due under the agreement, Mount Sinai may issue written notice to us. If we continue to fail to pay royalties after 60 days from receipt of the written notice, Mount Sinai can terminate the agreement. The Mount Sinai Agreement requires us to use due diligence to make the products covered by the licensed patent rights commercially available, including a requirement for us to use best efforts to reach a number of developmental milestones, which have been achieved. If we fail to comply with the due diligence provisions of the agreement, Mount Sinai could take actions to convert our exclusive license to a non-exclusive license after six months written notice. The Mount Sinai Agreement does not contain any milestone payment provisions.

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Fordham University

During 1995, Dr. Srivastava moved his research to Fordham University. We entered into a sponsored research and technology license agreement with Fordham in March 1995 (the Fordham Agreement) relating to the continued development of the heat shock protein technology and agreed to make payments to Fordham to sponsor Dr. Srivastava s research. Through the Fordham Agreement, we obtained an exclusive, perpetual, worldwide license to all of the intellectual property, including all the patent rights, which resulted from the research and development performed by Dr. Srivastava at Fordham. We also agreed to pay Fordham a royalty on the net sales of products covered by the Fordham Agreement through the last expiration date on the patents under the agreement (2018) or when the patents become no longer valid. The agreement does not contain any milestone payment provisions or any diligence provisions. Dr. Srivastava moved his research to the University of Connecticut Health Center (UConn) during 1997 and, accordingly, the parts of the agreement related to payments for sponsored research at Fordham terminated in mid-1997. During the term of this agreement, we paid Fordham approximately $2.4 million.

University of Connecticut

License Agreement

In May 2001, we entered into a license agreement with UConn which was amended in March 2003 and June 2009. Through the license agreement, we obtained an exclusive worldwide license to patent rights resulting from inventions discovered under a research agreement that was effective from February 1998 until December 2006. The term of the license agreement ends when the last of the licensed patents expires (2022) or becomes no longer valid. UConn may terminate the agreement: (1) if, after 30 days written notice for breach, we continue to fail to make any payments due under the license agreement, or (2) we cease to carry on our business related to the patent rights or if we initiate or conduct actions in order to declare bankruptcy. We may terminate the agreement upon 90 days written notice. The license agreement contains aggregate milestone payments of approximately $1.2 million for each product we develop covered by the licensed patent rights. These milestone payments are contingent upon regulatory filings, regulatory approvals, and commercial sales of products. We have also agreed to pay UConn a royalty on the net sales of products covered by the license agreement as well as annual license maintenance fees beginning in May 2006. Royalties otherwise due on the net sales of products covered by the license agreement may be credited against the annual license maintenance fee obligations. Under the March 2003 amendment, we agreed to pay UConn an upfront payment and to make future payments for each patent or patent application with respect to which we exercised our option under the research agreement. As of December 31, 2009, we have paid approximately $300,000 to UConn under the license agreement. The license agreement gives us complete discretion over the commercialization of products covered by the licensed patent rights but also requires us to use commercially reasonable diligent efforts to introduce commercial products within and outside the United States. If we fail to meet these diligence requirements, UConn may be able to terminate the license agreement.

Sumitomo Pharmaceuticals Co., Ltd.

In September 2003, we entered into a license agreement with Sumitomo Pharmaceuticals Co., Ltd. The license agreement grants us the exclusive right to an issued U.S. patent that contains certain claims that relate to Aroplatin. Except for the treatment of hepatoma, the license agreement gives us the exclusive right to make, use, develop, import, and sell Aroplatin in the United States. The term of the license agreement ends when the licensed patent expires in 2020. Either party may terminate the license agreement by giving written notice to the other party upon the occurrence of the following events: (1) if the other party makes an assignment for the benefit of creditors, is the subject of bankruptcy proceedings, or has a trustee or receiver appointed for substantially all of its assets, (2) if the other party becomes insolvent, or (3) if the other party materially defaults in its performance under the license agreement. Sumitomo will receive milestone payments from us in the aggregate of up to $3.5 million if regulatory filings, regulatory approval and sales in connection with Aroplatin occur. We also agreed to pay Sumitomo royalties on the net sales of Aroplatin in the United States upon commercialization of the product.

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University of Texas Board of Regents/University of Texas M.D. Anderson Cancer Center

In June 1988, a predecessor to Aronex Pharmaceuticals, Inc. entered into an exclusive license agreement with: (1) The Board of Regents of The University of Texas System, and (2) The University of Texas System Cancer Center, collectively referred to as the University of Texas. As amended, the exclusive license agreement grants us the exclusive, worldwide license to the University of Texas patent rights containing claims that relate to Aroplatin. The term of the exclusive license agreement expires when the last licensed patent expires, which is anticipated to be in 2015. Either party may terminate the agreement upon 60 days written notice if the other party materially breaches any material term of the exclusive license agreement. The agreement requires that we meet certain diligence provisions, specifically the conduct of ongoing and active research, developmental activities, marketing, clinical testing, or a licensing program, directed towards the production and sale of Aroplatin. If we fail to comply with these diligence provisions, the University of Texas may be able to terminate the exclusive license agreement upon 90 days written notice. The University of Texas also has the right to terminate the exclusive license agreement in the event that: (1) we discontinue our business, (2) we have a receiver or trustee appointed for our assets, or (3) we are the subject of a bankruptcy proceeding. We agreed to pay the University of Texas royalties on the net sales of Aroplatin. The applicable royalty percentage is dependent on the level of net sales of Aroplatin. We have also agreed to make a $200,000 milestone payment to the University of Texas if the FDA approves a new drug application for Aroplatin. To date, no payments have become due to the University of Texas under the license agreement.

Regulatory Compliance

Governmental authorities in the United States and other countries extensively regulate the preclinical and clinical testing, manufacturing, labeling, storage, record keeping, advertising, promotion, export, marketing and distribution, among other things, of our investigational product candidates. In the United States, the FDA under the Federal Food, Drug, and Cosmetic Act, the Public Health Service Act and other federal statutes and regulations, subject pharmaceutical products to rigorous review.

In order to obtain approval of a new product from the FDA, we must, among other requirements, submit proof of safety and efficacy as well as detailed information on the manufacture and composition of the product. In most cases, this proof entails extensive preclinical, clinical, and laboratory tests. Before approving a new drug or marketing application, the FDA may also conduct pre-licensing inspections of the company, its contract research organizations and/or its clinical trial sites to ensure that clinical, safety, quality control, and other regulated activities are compliant with Good Clinical Practices, or GCP, or Good Laboratory Practices, or GLP, for specific non-clinical toxicology studies. The FDA may also require confirmatory trials, post-marketing testing, and extra surveillance to monitor the effects of approved products, or place conditions on any approvals that could restrict the commercial applications of these products. Once approved, the labeling, advertising, promotion, marketing, and distribution of a drug or biologic product must be in compliance with FDA regulatory requirements.

The first stage required for ultimate FDA approval of a new biologic or drug involves completion of preclinical studies and the submission of the results of these studies to the FDA. This, together with proposed clinical protocols, manufacturing information, analytical data, and other information in an IND, must become effective before human clinical trials may commence. Preclinical studies involve laboratory evaluation of product characteristics and animal studies to assess the efficacy and safety of the product. The FDA regulates preclinical studies under a series of regulations called the current GLP regulations. If the sponsor violates these regulations, the FDA may invalidate the studies and require that the sponsor replicate those studies.

After the IND becomes effective, a sponsor may commence human clinical trials. The sponsor typically conducts human clinical trials in three sequential phases, but the phases may overlap. In Phase 1 trials, the sponsor tests the product in a small number of patients or healthy volunteers, primarily for safety at one or more doses. Phase 1 trials in cancer are often conducted with patients who have end-stage or metastatic cancer. In Phase 2, in addition to safety, the sponsor evaluates the efficacy of the product in a patient population somewhat

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larger than Phase 1 trials. Phase 3 trials typically involve additional testing for safety and clinical efficacy in an expanded population at geographically dispersed test sites. The sponsor must submit to the FDA a clinical plan, or protocol, accompanied by the approval of the institutions participating in the trials, prior to commencement of each clinical trial. The FDA may order the temporary or permanent discontinuation of a clinical trial at any time. In the case of product candidates for cancer, the initial human testing may be done in patients with the disease rather than in healthy volunteers. Because these patients are already afflicted with the target disease, such studies may provide results traditionally obtained in Phase 2 studies. Accordingly, these studies are often referred to as Phase 1/2 studies. Even if patients participate in initial human testing and a Phase 1/2 study is carried out, the sponsor is still responsible for obtaining all the data usually obtained in both Phase 1 and Phase 2 studies.

The sponsor must submit to the FDA the results of the preclinical and clinical testing, together with, among other things, detailed information on the manufacture and composition of the product, in the form of a new drug application or, in the case of a biologic, like Oncophage, a BLA. In a process that can take a year or more, the FDA reviews this application and, when and if it decides that adequate data is available to show that the new compound is both safe and effective for a particular indication and that other applicable requirements have been met, approves the drug or biologic for marketing. The amount of time taken for this approval process is a function of a number of variables, including the quality of the submission and studies presented and the potential contribution that the compound will make in improving the treatment of the disease in question.

The Orphan Drug Program provides a mechanism for the FDA to acknowledge that a product is designed to treat a disease with limited prevalence in the United States. An orphan drug designation bestows certain advantages including extending marketing exclusivity if the product is ultimately approved for marketing, considerations in trial size and design based on the actual patient population, and tax credits for some research and development expenses. We hold orphan drug designations for Oncophage in renal cell carcinoma and in metastatic melanoma.

The labeling, advertising, promotion, marketing, and distribution of a drug or biologic product must be in compliance with FDA regulatory requirements. Failure to comply with applicable requirements can lead to the FDA demanding that production and shipment cease, and, in some cases, that the manufacturer recall products, or to enforcement actions that can include seizures, injunctions, and criminal prosecution. These failures can also lead to FDA withdrawal of approval to market a product. Other jurisdictions have similar requirements.

Sales of pharmaceutical products outside the United States are subject to foreign regulatory requirements that vary widely from jurisdiction to jurisdiction. Additionally, if a product, such as Oncophage, is manufactured in the United States, but not approved in the United States, certain FDA export regulations have to be satisfied to allow the product to be exported to the foreign country where the product is approved, such as to Russia. Whether or not we have obtained FDA approval, we must generally obtain approval of a product by comparable regulatory authorities of international jurisdictions prior to the commencement of marketing the product in those jurisdictions. We are also subject to cGMP, GCP, and GLP compliance obligations, and are subject to inspection by international regulatory authorities. International requirements may in some circumstances be more rigorous than U.S. requirements and may require additional investment in manufacturing process development, non-clinical studies, clinical studies, and record keeping that are not required for U.S. regulatory compliance or approval. The time required to obtain this approval may be longer or shorter than that required for FDA approval and can also require significant resources in time, money, and labor.

We are also planning for compliance with the various federal and state laws pertaining to health care fraud and abuse, including anti-kickback laws and false claims laws. Anti-kickback laws make it illegal for a prescription drug manufacturer to solicit, offer, receive, or pay any remuneration in exchange for, or to induce, the referral of business, including the purchase or prescription of a particular drug. False claims laws prohibit anyone from knowingly and willingly presenting, or causing to be presented for payment to third-party payers, including Medicare and Medicaid, claims for reimbursed drugs or services that are false or fraudulent, claims for items or services not provided as claimed, or claims for medically unnecessary items or services.

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Under the laws of the United States, the countries of the European Union, and other nations, we and the institutions where we sponsor research are subject to obligations to ensure the protection of personal information of human subjects participating in our clinical trials. We have instituted procedures that we believe will enable us to comply with these requirements and the contractual requirements of our data sources. The laws and regulations in this area are evolving, and further regulation, if adopted, could affect the timing and the cost of future clinical development activities.

We are also subject to regulation under the Occupational Safety and Health Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act, and other current and potential future federal, state, or local regulations. Our research and development activities involve the controlled use of hazardous materials, chemicals, biological materials, various radioactive compounds, and for some experiments we use recombinant DNA. We believe that our procedures comply with the standards prescribed by local, state, and federal regulations; however, the risk of injury or accidental contamination cannot be completely eliminated. We conduct our activities in compliance with the National Institutes of Health Guidelines for Recombinant DNA Research.

We are subject to the United States Foreign Corrupt Practices Act, which prohibits corporations and individuals from engaging in specified activities to obtain or retain business or to influence a person working in an official capacity. Under this act, it is illegal to pay, offer to pay, or authorize the payment of anything of value to any foreign government official, government staff member, political party, or political candidate in an attempt to obtain or retain business, or to otherwise influence a person working in an official capacity. Our present and future business has been and will continue to be subject to various other laws and regulations.

Competition

Competition in the pharmaceutical and biotechnology industries is intense. Many pharmaceutical or biotechnology companies have products on the market and are actively engaged in the research and development of products for the treatment of cancer and infectious diseases. In addition, many competitors focus on immunotherapy as a treatment for cancer and infectious diseases. In particular, some of these companies are developing cancer vaccines produced from a patient s own cells or tissue. Others are focusing on developing heat shock protein products. Prior to regulatory approval, we may compete for access to patients with other products in clinical development, with products approved for use in the indications we are studying, or with off-label use of products in the indications we are studying. In addition, we compete for funding, access to licenses, personnel, and third-party collaborations. Many competitors have substantially greater financial, manufacturing, marketing, sales, distribution, and technical resources, and more experience in research and development, clinical trials, and regulatory matters, than we do. Competing companies developing or acquiring rights to more efficacious therapeutic products for the same diseases we are targeting, or which offer significantly lower costs of treatment, could render our products noncompetitive or obsolete.

Academic institutions, governmental agencies, and other public and private research institutions conduct significant amounts of research in biotechnology, medicinal chemistry, and pharmacology. These entities have become increasingly active in seeking patent protection and licensing revenues for their research results. They also compete with us in recruiting and retaining skilled scientific talent.

We are aware of certain programs and products under development by other companies that may compete with our programs and products. Several of these companies have products that utilize similar technologies and/or patient-specific medicine techniques, such as Dendreon and Accentia.

We are aware of a saponin adjuvant called OPT-821 which is claimed to be identical to QS-21. OPT-821 was developed by Optimer Pharmaceuticals and is being used in ongoing cancer vaccine trials. Several other vaccine adjuvants are in development and could compete with QS-21 for inclusion in vaccines in development. These adjuvants include, but are not limited to, oligonucleotides, under development by Pfizer, Idera, Juvaris,

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and Dynavax, anti-CTLA-4 antibody, under development by Pfizer and Bristol-Myers Squibb, MF59 and SAF, under development by Novartis, IC31, under development by Intercell, and MPL, under development by GSK. In addition, at least one company, CSL Limited, as well as academic institutions, are developing saponin adjuvants, including derivatives and synthetic formulations.

The existence of products developed by these and other competitors, or other products of which we are not aware or which other companies may develop in the future, may adversely affect the marketability of products we develop.

Employees

As of February 26, 2010, we had approximately 54 employees, of whom 8 were Ph.D.s and 2 were MDs. None of our employees are subject to a collective bargaining agreement. We believe that we have good relations with our employees.

Corporate History

Antigenics L.L.C. was formed as a Delaware limited liability company in 1994 and was converted to Antigenics Inc., a Delaware corporation, in February 2000 in conjunction with our initial public offering of common stock.

Availability of Periodic SEC Reports

Our Internet website address is *www.antigenics.com*. We make available free of charge through our website 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 Securities Exchange Act of 1934 (Securities Exchange Act) as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission (the SEC). The contents of our website are not part of, or incorporated into, this document.

Item 1A. ***Risk Factors***

Our future operating results could differ materially from the results described in this Annual Report on Form 10-K due to the risks and uncertainties described below. We cannot assure investors that our assumptions and expectations will prove to be correct. Important factors could cause our actual results to differ materially from those indicated or implied by forward-looking statements. See Note Regarding Forward-Looking Statements on page 2 of this Annual Report on Form 10-K. Factors that could cause or contribute to such differences include those factors discussed below.

Risks Related to our Business

If we incur operating losses for longer than we expect, or we are not able to raise additional capital, we may be unable to continue our operations, or we may become insolvent.

From our inception through December 31, 2009, we have incurred net losses totaling $562.5 million. Our net losses for the years ended December 31, 2009, 2008, and 2007 were $30.3 million, $30.8 million, and $37.9 million, respectively. We expect to incur significant losses over the next several years as we continue research and clinical development of our technologies, apply for regulatory approvals, and pursue commercialization efforts and related activities. Furthermore, our ability to generate cash from operations is dependent on the success of our licensees and collaborative partners, as well as the likelihood and timing of new strategic licensing and partnering relationships and/or successful commercialization of Oncophage and our various product candidates. If we incur operating losses for longer than we expect and/or we are unable to raise additional capital, we may become insolvent and be unable to continue our operations.

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On December 31, 2009, we had $30.1 million in cash, cash equivalents, and short-term investments. We believe that, based on our current plans and activities, our working capital resources at December 31, 2009, combined with anticipated revenues, and the estimated proceeds from our license, supply, and collaborative agreements, will be sufficient to satisfy our liquidity requirements into mid-2011. We expect to attempt to raise additional funds in advance of depleting our current funds. For the year ended December 31, 2009, our average monthly cash used in operating activities was $2.0 million. We do not anticipate significant capital expenditures during 2010.

We are required to maintain effective registration statements in connection with certain private placement agreements. If we are unable to keep the registration statements continuously effective in accordance with the terms of the private placement agreements, we are subject to liquidated damages penalties of up to a maximum of 10% of the aggregate purchase price paid by the original investors, or up to $3.8 million.

Since our inception, we have financed our operations primarily through the sale of equity and convertible notes, interest income earned on cash, cash equivalents, and short-term investment balances, and debt provided through secured lines of credit. In order to finance future operations, we will be required to raise additional funds in the capital markets, through arrangements with collaborative partners, or from other sources.

Additional financing may not be available on favorable terms, or at all. If we are unable to raise additional funds when we need them, we will be required to delay, reduce, or eliminate some or all of our development, commercialization and clinical trial programs, including those related to Oncophage. We also may be forced to license or sell technologies to others under agreements that allocate to third parties substantial portions of the potential value of these technologies. We may also be unable to continue our operations, or we may become insolvent.

The United States economy, and possibly the global economy, has been experiencing a recession. While the duration of the recession cannot be predicted, this may have a material adverse effect on our liquidity and financial condition, particularly if our ability to raise additional funds is impaired. The ability of potential patients and/or health care payers to pay for Oncophage treatments could also be adversely impacted, thereby limiting our potential revenue. In addition, any negative impacts from the deterioration in the credit markets and related financial crisis on our collaborative partners could limit potential revenue from our product candidates.

We have significant long-term debt, and we may not be able to make interest or principal payments when due.

As of December 31, 2009, the principal portion of our total long-term debt, excluding the current portion, was $52.0 million. Our 5.25% convertible senior notes due February 2025 (the 2005 Notes) do not restrict our ability or the ability of our subsidiaries to incur additional indebtedness, including debt that effectively ranks senior to the 2005 Notes. On each of February 1, 2012, February 1, 2015, and February 1, 2020, holders may require us to purchase their notes for cash equal to 100% of the principal amount of the notes, plus any accrued and unpaid interest. Holders may also require us to repurchase their notes upon a fundamental change, as defined, at a cash price equal to 100% of the principal amount of the notes to be repurchased, plus any accrued and unpaid interest, and in some cases, an additional make-whole premium.

At the maturity of our 8% senior secured convertible notes due August 2011 (the 2006 Notes), we may elect to repay the outstanding balance in cash or in common stock, subject to certain limitations. In no event will any of the note holders be obligated to accept equity that would result in them owning in excess of 9.99% of our outstanding common stock at any given time in connection with any conversion, redemption, or repayment of these notes. The 2006 Note agreements include material restrictions on our incurrence of debt and liens while these notes are outstanding, as well as other customary covenants.

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Our ability to satisfy our obligations will depend upon our future performance, which is subject to many factors, including the factors identified in this Risk Factors section and other factors beyond our control. If we are not able to generate sufficient cash flow from operations in the future to service our indebtedness, we may be required, among other things, to:

- seek additional financing in the debt or equity markets;
- refinance or restructure all or a portion of our indebtedness;
- sell, out-license, or otherwise dispose of assets; and/or
- reduce or delay planned expenditures on research and development and/or commercialization activities.

Such measures might not be sufficient to enable us to make principal and interest payments. In addition, any such financing, refinancing, or sale of assets might not be available on economically favorable terms, if at all.

To date, we have had negative cash flows from operations. For the year ended December 31, 2009, 2008, and 2007, net cash used in operating activities was $24.2 million, $28.9 million, and $26.7 million, respectively. Excluding our 2006 Notes, for which we may elect to pay the interest in cash or additional notes, and assuming no additional interest-bearing debt is incurred and no additional notes are converted, redeemed, repurchased, or exchanged, our cash interest payments will be $1.0 million annually thereafter until maturity.

Several factors could prevent the successful commercialization of Oncophage in Russia. In addition, we do not expect to generate significant revenue from sales of Oncophage in Russia for several months, if ever.

In April 2008, the Russian Ministry of Public Health issued a registration certificate for the use of Oncophage for the treatment of kidney cancer patients at intermediate risk for disease recurrence and, in September 2008, the FDA granted the necessary permission to allow for the export of Oncophage from the United States to Russia. The Russian registration was our first product approval from a regulatory authority.

Our distributor has obtained an import/export license from the Russian Ministry of Industry and Trade, but we, or our distributor, or other service providers, must also complete a number of other post-approval activities. Since Oncophage can only be manufactured from a patient s own tumor, patients will need to be diagnosed, and their tumors will need to be removed and sent to our manufacturing facility for vaccine to be prepared, released, and then returned to the site for patient administration. Complexities unique to the logistics of commercial products may delay shipments and limit our ability to move commercial product in an efficient manner without incident. We currently do not have employees, manufacturing, or business operations facilities outside of the United States. As we prepare for sales of Oncophage in Russia, and in the event we are able to launch Oncophage in other territories, we will rely significantly on consultants, partners, and other third parties to conduct our sales, marketing, and distribution operations. In addition, if we are unable to establish and execute on successful local distribution arrangements including favorable pricing and payment terms, and/or implement appropriate logistical processes for distribution of Oncophage, our commercialization efforts would be adversely affected.

Even if we have a successful completion of the logistical and regulatory requirements for Russian commercial sales, the amount of revenue generated from Oncophage in Russia will depend on, among other things, identifying sources of reimbursement and obtaining adequate reimbursement, including from national or regional funds, and physician and patient assessments of the benefits and cost-effectiveness of Oncophage. If we are unsuccessful in obtaining substantial reimbursement for Oncophage from national or regional funds, we will have to rely on private-pay for the foreseeable future, which may delay or reduce our sales efforts because the ability and willingness of patients to pay is unclear. In addition, cost-containment measures by third parties may limit our reimbursement and prevent us from becoming profitable. Because we have limited resources and minimal sales and marketing experience, commercialization of Oncophage may not materialize. Furthermore, we may experience significant delays in the receipt of payment for Oncophage, or an inability to collect payments at all.

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On October 20, 2009 the CHMP of the EMEA informed us at an oral hearing to anticipate a negative opinion on our MAA we submitted to the EMEA in October 2008. After its review, the CHMP adopted a negative opinion and subsequently we withdrew our MAA. We do not know what impact, if any, this opinion will have on our Russian activities. We are currently evaluating our options to determine whether and how to proceed with Oncophage in renal cell carcinoma. If we continue to pursue a marketing authorization application for Oncophage with the EMEA, there is a high level of uncertainty regarding the probability and timing of a favorable outcome.

If we fail to obtain adequate levels of reimbursement for Oncophage, our product candidates, or the product candidates of our licensees or collaborators, there may be no commercially viable market for these products, or the commercial potential of these products may be significantly limited.

Public and private insurance programs may determine that Oncophage, our product candidates, or the product candidates of our licensees or collaborative partners do not come within a category of items and services covered by their insurance plans. In Russia, Europe, and other countries outside the United States, government-sponsored health care systems typically pay a substantial share of health care costs, and they may regulate reimbursement levels of our products to control costs. Government and private third-party payers are increasingly challenging the prices charged for medical products and services, and increasingly attempting to limit and/or regulate the reimbursement for medical products. In many of the markets where we or our collaborative partners would commercialize a product following regulatory approval, the prices of pharmaceutical products are subject to price controls by various mechanisms. Russia is an evolving market and regulatory, legal, and commercial structures are less predictable than in more mature markets. In addition, the reimbursement system in Russia is changing rapidly and has experienced serious funding and administrative problems in its national and regional reimbursement programs. For example, the program known by the Russian acronym of DLO, which was established in January 2005 to provide free-of-charge prescriptions to certain Russians, has substantially delayed payments and covered fewer drugs recently. In addition, the Russian government is attempting to reduce coverage for drugs produced outside of Russia, as they tend to cost more than drugs produced in Russia. Furthermore, it is possible that reimbursement for cancer drugs and other therapeutic areas will not be covered by a newly created system, which may result in uncertainties regarding levels of reimbursement. Drug reimbursement in Russia could continue to undergo change. There can be no assurance regarding the timing, scope, or availability of reimbursement in Russia for Oncophage. In addition, we do not know the impact, if any, that the opinion received on our MAA in Europe will have on our reimbursement efforts. If we are unsuccessful in obtaining substantial reimbursement for Oncophage from national or regional funds, we will have to rely on private-pay, which may delay or prevent our launch efforts, because the ability and willingness of patients to pay for the product is unclear.

It is possible that there will be substantial delays in obtaining coverage of Oncophage, our product candidates, or the product candidates of our licensees or collaborative partners, if at all, and that, if coverage is obtained, there may be significant restrictions on the circumstances in which there would be reimbursement. Where government or insurance coverage is available, there may be prohibitive levels of patient coinsurance, making products unaffordable, or limits on the payment amount, which could have a material adverse effect on sales. If we are unable to obtain or retain adequate levels of reimbursement from government or private health plans, our or our collaborative partners ability to sell products will be adversely affected. We are unable to predict what impact any future regulation or third-party payer initiatives relating to reimbursement will have on our sales. Healthcare reform that may emerge from current policy debate may result in deleterious pricing and potential price controls on pharmaceutical and biotech products in the United States, Europe, and elsewhere.

If we fail to comply with regulatory requirements in the countries in which we conduct our business, if these regulatory requirements change, or if we experience unanticipated regulatory problems, our commercial launch of Oncophage could be prevented or delayed, or Oncophage could be subjected to restrictions, or be withdrawn from the market, or some other action may be taken that may be adverse to our business.

Regulatory authorities generally approve products for particular indications. If an approval is for a limited indication, this limitation reduces the size of the potential market for that product. Product approvals, once

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granted, are subject to continual review and periodic inspections by regulatory authorities. Later discovery of previously unknown problems or safety issues and/or failure to comply with applicable regulatory requirements can result in, among other things, warning letters, fines, injunctions, civil penalties, recall or seizure of products, total or partial suspension of production, refusal of the government to renew marketing applications, complete withdrawal of a marketing application, and/or criminal prosecution. Such regulatory enforcement could have a direct and negative impact on the product for which approval is granted, but also could have a negative impact on the approval of any pending applications for marketing approval of new drugs or supplements to approved applications.

In addition, our operations and marketing practices are subject to regulation and scrutiny by the United States government, as well as governments of any other countries in which we do business or conduct activities. Because we are a company operating in a highly regulated industry, regulatory authorities could take enforcement action against us in connection with our business and marketing activities for various reasons.

For example, our marketing and sales, labeling, and promotional activities in Russia are subject to local regulations. If we fail to comply with regulations prohibiting the promotion of products for non-approved indications or products for which marketing approval has not been granted, regulatory authorities could bring enforcement actions against us that could inhibit our marketing capabilities, as well as result in penalties. In addition, the United States Foreign Corrupt Practices Act prohibits U.S. companies and their representatives from offering, promising, authorizing, or making payments to foreign officials for the purpose of obtaining or retaining business abroad. Failure to comply with domestic or foreign laws, knowingly or unknowingly, could result in various adverse consequences, including possible delay in approval or refusal to approve a product, recalls, seizures, withdrawal of an approved product from the market, exclusion from government health care programs, imposition of significant fines, injunctions, and/or the imposition of civil or criminal sanctions against us and/or our officers or employees.

From time to time, new legislation is passed into law that could significantly change the statutory provisions governing the approval, manufacturing, and marketing of products regulated by the FDA and other global health authorities. Additionally, regulations and guidance are often revised or reinterpreted by health agencies in ways that may significantly affect our business and our products. It is impossible to predict whether further legislative changes will be enacted, or whether regulations, guidance, or interpretations will change, and what the impact of such changes, if any, may be.

We may not be able to obtain approval to make Oncophage available in countries other than Russia.

Oncophage is currently only approved for marketing in Russia for the treatment of kidney cancer patients at intermediate risk for disease recurrence. In 2008, we submitted a MAA to the EMEA requesting conditional authorization of Oncophage in earlier-stage, localized kidney cancer. Conditional authorization, a relatively new provision, is reserved for products intended to treat serious and life-threatening diseases where a high unmet medical need currently exists. Conditional authorization allows for the commercialization of a product with post-approval commitments associated with the requirement to provide comprehensive clinical information about the product s efficacy and safety profile.

After its review, the CHMP of the EMEA adopted a negative opinion on our MAA and subsequently we withdrew our application. We are currently evaluating our options to determine whether and how to proceed with Oncophage in renal cell carcinoma. If we continue to pursue a marketing authorization application for Oncophage with the EMEA, there is a high level of uncertainty regarding the probability and timing of a favorable outcome. In addition, even if we continue this pursuit, Oncophage may not achieve conditional approval in Europe because we may not successfully address issues associated with post-hoc analysis, subgroup analysis, lack of immunological data, product characterization, or other issues that may be of concern to the EMEA.

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The probability and timing of submissions and/or approval in any jurisdiction or indication for this product is uncertain. The FDA has indicated that our Phase 3 clinical trials of Oncophage cannot, by themselves, support BLA filings in the studies indications (renal cell carcinoma and metastatic melanoma). The signals and trends observed in the Phase 3 renal cell carcinoma and melanoma trials of Oncophage are based on data analysis of subgroups of patients, some of which were not pre-specified. While the subgroup data might be suggestive of treatment effect, under current regulatory guidelines the results cannot be expected, alone, to support registration or approval of Oncophage in the United States, and our existing data may not support registration or approval in other territories outside of Russia, including in Europe. Due to our lack of resources, our ability to perform additional studies may be limited. Furthermore, studies may take years to complete and may fail to support regulatory filings for many reasons. In addition, Oncophage is a novel therapeutic cancer vaccine that is patient-specific, meaning it is derived from the patient s own tumor. The FDA and foreign regulatory agencies, including the EMEA, which is responsible for product approvals in Europe, and Health Canada, which is responsible for product approvals in Canada, have relatively little experience in reviewing this novel class of patient-specific oncology therapies. Therefore, Oncophage may experience a long regulatory review process and high development costs, either of which could delay or prevent our commercialization efforts.

Risks associated with doing business internationally could negatively affect our business.

With the registration of Oncophage in Russia, we have begun to focus our efforts on the commercialization of this product. However, Russia is an evolving market and regulatory, legal, and commercial structures are less predictable than in more mature markets. This unpredictability, as well as potential geopolitical instability in the Russian region, could negatively impact the regulatory and/or commercial environment there, which in turn could have an adverse effect on our business.

In addition, various other risks associated with foreign operations may impact our success. Possible risks include fluctuations in the value of foreign and domestic currencies, disruptions in the import, export, and transportation of patient tumors and our product, the product and service needs of foreign customers, difficulties in building and managing foreign relationships, the performance of our licensees or collaborators, and unexpected regulatory, economic, or political changes in foreign markets.

Our financial position, results of operations, and cash flows can be affected by fluctuations in foreign currency exchange rates, primarily for the euro and the ruble. Movement in foreign currency exchange rates could cause revenue or clinical trial costs to vary significantly in the future and may affect period-to-period comparisons of our operating results. Historically, we have not hedged our exposure to these fluctuations in exchange rates.

Our commercial operations experience and resources are limited and need to be developed or acquired. If we fail to do so, our revenues may be limited or nonexistent. In addition, we may be required to incur significant costs and devote significant efforts to augment our existing capabilities.

As we have limited experience with commercial operations, it may be difficult to accurately estimate our costs. We currently do not have employees, manufacturing, or business operations facilities outside of the United States. As we prepare for sales of Oncophage in Russia, and in the event we are able to launch Oncophage in other territories, we will rely significantly on consultants, partners, and other third parties to conduct our sales, marketing, and distribution operations. If these third parties are unable to fulfill their obligations, our commercial launch of Oncophage could be delayed or prevented. If in the future we elect to perform sales, marketing, and distribution functions ourselves, we will face a number of additional risks, including the need to recruit experienced marketing and sales personnel, or incur significant expenditures. In addition, we may need to compete with other companies that have more experienced and better-funded operations. Where we have licensed our products to third-party collaborators or licensees, we will be dependent on their commercial operations, sales and marketing expertise and resources, and any revenues we receive from those products will depend primarily on the sales and marketing efforts of others.

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For Oncophage, we need to develop specialized commercial operations to manage patient-specific ordering, tracking, and control. There are few companies that have developed this expertise and we do not know whether we will be able to establish commercial operations or enter into marketing and sales agreements with others on acceptable terms, if at all.

Our competitors in the biotechnology and pharmaceutical industries may have superior products, manufacturing capability, selling and marketing expertise and/or financial and other resources.

Our business and the products in development by our collaborative partners may fail because of intense competition from major pharmaceutical companies and specialized biotechnology companies engaged in the development of product candidates directed at cancer, infectious diseases and degenerative disorders. Several of these companies have products that utilize technologies similar to Oncophage and/or patient-specific medicine techniques, such as Dendreon and Accentia.

There is no guarantee that we will be able to compete with potential future products being developed by our competitors. More specifically, Oncophage may compete with therapies currently in development for non-metastatic renal cell carcinoma, such as Wilex AG s Rencarex (WX-G250), which is in Phase 3 clinical trials. Additionally, sorafenib and sunitinib, which are approved for advanced renal cell carcinoma, are being studied in non-metastatic renal cell carcinoma, and other products that have been developed for metastatic renal cell carcinoma, such as temsirolimus, bevacizumab and pazopanib, may also be developed for non-metastatic renal cell carcinoma. As Oncophage is potentially developed in other indications, it will face additional competition in those indications. In addition, for Oncophage and all of our product candidates, prior to regulatory approval, we may compete for access to patients with other products in clinical development, with products approved for use in the indications we are studying, or with off-label use of products in the indications we are studying. We anticipate that we will face increased competition in the future as new companies enter markets we seek to address and scientific developments surrounding immunotherapy and other traditional cancer therapies continue to accelerate.

Our patent to purified QS-21 expired in most territories in 2008. Additional protection for our QS-21 proprietary adjuvant in combination with other agents is provided by our other patents. Our license and supply agreements for QS-21 typically provide royalties for at least 10 years after commercial launch independent of patent expiry. However, there is no guarantee that we will be able to collect royalties in the future.

We are aware of a saponin adjuvant called OPT-821 which is claimed to be identical to QS-21. OPT-821 was developed by Optimer Pharmaceuticals and is being used in ongoing cancer vaccine trials. Several other vaccine adjuvants are in development and could compete with QS-21 for inclusion in vaccines in development. These adjuvants include, but are not limited to, oligonucleotides, under development by Pfizer, Idera, Juvaris, and Dynavax, anti-CTLA-4 antibody, under development by Pfizer and Bristol-Myers Squibb, MF59 and SAF, under development by Novartis, IC31, under development by Intercell, and MPL, under development by GSK. In addition, at least one company, CSL Limited, as well as academic institutions, are developing saponin adjuvants, including derivatives and synthetic formulations.

Many of our competitors, including large pharmaceutical companies, have greater financial and human resources and more experience than we do. Our competitors may:

- commercialize their product candidates sooner than we commercialize our own;
- develop safer or more effective therapeutic drugs or preventive vaccines and other therapeutic products;
- implement more effective approaches to sales and marketing and capture some of our potential market share;
- establish superior intellectual property positions;

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discover technologies that may result in medical insights or breakthroughs, which render our drugs or vaccines obsolete, possibly before they generate any revenue; or

adversely affect our ability to recruit patients for our clinical trials.

Manufacturing problems may cause product launch delays, unanticipated costs, or loss of revenue streams.

If the demand for Oncophage is substantially greater than we anticipate, or if one of our product candidates or our licensees product candidates nears marketing approval or is approved for sale, we may be required to manufacture substantially more product than we have been required to in the past. With higher manufacturing loads, we may experience higher manufacturing failure rates than we have in the past. We currently manufacture Oncophage in our Lexington, Massachusetts facility and we intend to continue using this facility to manufacture Oncophage to satisfy all demands for product. While we believe we will be able to cover all Oncophage demands in the near term, there is no guarantee that we will be able to meet any unanticipated increase in demand, and a failure to do so could adversely affect our business. Such demand may also limit our ability to manufacture Oncophage in support of clinical trials, and this could cause a delay or failure in our Oncophage programs. Manufacturing of Oncophage is complex, and various factors could cause delays or an inability to supply vaccine. Deviations in the processes controlling manufacture could result in production failures.

We can also manufacture other clinical products in our own manufacturing facility. This manufacturing facility has certain support areas that it shares with the Oncophage manufacturing areas. As we seek to make Oncophage available in other territories, the applicable regulatory bodies may require us to make our Oncophage manufacturing facility a single product facility. In such an instance, we would no longer have the ability to manufacture products such as AG-707 in our current facility. In order to prepare additional AG-707 to support future clinical trials, we would then have to manufacture or have manufactured this product in a good manufacturing practice (GMP) compliant facility.

Currently, we do not manufacture QS-21 in our own manufacturing facility, and we have given our two QS-21 licensees who have the most advanced clinical programs utilizing QS-21 the right to manufacture QS-21 themselves or through third-party manufacturers. If these key licensees are unable to successfully manufacture or have manufactured QS-21, the commercialization of the product candidates being developed by such licensees could be delayed or prevented, and we could lose important potential future revenue streams. In addition, with respect to other third-party programs containing QS-21, if we choose to manufacture QS-21 in our own manufacturing facility, the investment of substantial funds and the recruitment of qualified personnel would be required in order to build and/or lease and operate new manufacturing facilities. We or our currently contracted suppliers, collaboration partners or licensees may never have the ability to manufacture commercial grade QS-21.

We currently rely upon and expect to continue to rely upon third parties, potentially including our collaborators or licensees, to produce materials required for product candidates, preclinical studies, clinical trials, and commercialization. A number of factors could cause production interruptions at our manufacturing facility or at our contract manufacturers, including equipment malfunctions, labor or employment retention problems, natural disasters, power outages, terrorist activities, or disruptions in the operations of our suppliers. Alternatively, there is the possibility we may have excess manufacturing capacity if product candidates do not progress as planned.

There are a limited number of contract manufacturers that are capable of manufacturing our product candidates. If we are unable to do so ourselves or to arrange for third-party manufacturing of these product candidates, or to do so on commercially reasonable terms, we may not be able to complete development of these product candidates or commercialize them ourselves or through our collaborative partners or licensees. Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured products ourselves, including reliance on the third party for regulatory compliance, the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control, and the possibility of termination or non-renewal of the agreement by the third party, based on its own business priorities, at a time that is costly or inconvenient for us.

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Manufacturing is also subject to extensive government regulation. Regulatory authorities must approve the facilities in which human health care products are produced. In addition, facilities are subject to ongoing inspections, and minor changes in manufacturing processes may require additional regulatory approvals, either of which could cause us to incur significant additional costs and lose revenue.

The drug development and approval process is uncertain, time-consuming, and expensive.

Clinical development, including preclinical testing and the process of obtaining and maintaining regulatory approvals for new therapeutic products, is lengthy, expensive, and uncertain. It also can vary substantially based on the type, complexity, and novelty of the product. We must provide regulatory authorities with manufacturing, product characterization, and preclinical and clinical data demonstrating that our product candidates are safe and effective before they can be approved for commercial sale. It may take us many years to complete our testing, and failure can occur at any stage of testing. Interim results of preclinical studies or clinical trials do not necessarily predict their final results, and acceptable results in early studies might not be seen in later studies. Any preclinical or clinical test may fail to produce results satisfactory to regulatory authorities for many reasons, including but not limited to insufficient product characterization, poor study structure conduct or statistical analysis planning, failure to enroll a sufficient number of patients or failure to prospectively identify the most appropriate patient eligibility criteria, and collectability of data. Preclinical and clinical data can be interpreted in different ways, which could delay, limit, or prevent regulatory approval. Negative or inconclusive results from a preclinical study or clinical trial, adverse medical events during a clinical trial, or safety issues resulting from products of the same class of drug could require a preclinical study or clinical trial to be repeated or cause a program to be terminated, even if other studies or trials relating to the program are successful. As of December 31, 2009, we have spent approximately 15 years and $271.0 million on our research and development program in heat shock proteins for cancer.

The timing and success of a clinical trial is dependent on enrolling sufficient patients in a timely manner, avoiding serious or significant adverse patient reactions, and demonstrating efficacy of the product candidate in order to support a favorable risk versus benefit profile, among other considerations. The timing and success of our clinical trials, in particular, are also dependent on clinical sites and regulatory authorities accepting each trial s protocol, statistical analysis plan, product characterization tests, and clinical data. In addition, regulatory authorities may request additional information or data that is not readily available. Delays in our ability to respond to such requests would delay, and failure to adequately address concerns would prevent, our commercialization efforts.

Our existing Oncophage data may not support registration or approval for Oncophage in territories outside of Russia, including in the U.S. or Europe. Any additional studies may take years to complete and may fail to support regulatory filings for many reasons. In October 2008, we submitted a MAA to the EMEA, requesting conditional authorization of Oncophage in earlier-stage, localized kidney cancer. After its review the CHMP of the EMEA adopted a negative opinion on this MAA and subsequently we withdrew our application. We are currently evaluating our options to determine whether and how to proceed with Oncophage in renal cell carcinoma. If we continue to pursue a MAA for Oncophage with the EMEA, there is a high level of uncertainty regarding the probability and timing of a favorable outcome. In addition, even if we continue this pursuit, Oncophage may not achieve approval in Europe. Additionally, the FDA has indicated that our Phase 3 clinical trials of Oncophage cannot, by themselves, support BLA filings in the studies indications (renal cell carcinoma and metastatic melanoma). The signals and trends observed in the Phase 3 renal cell carcinoma and melanoma trials of Oncophage are based on data analysis of subgroups of patients, some of which were not pre-specified. While the subgroup data might be suggestive of treatment effect, under current regulatory guidelines the results cannot be expected, alone, to support registration or approval of Oncophage in the United States. Furthermore, regulatory authorities, including the FDA and the EMEA, may have varying interpretations of our product characterization, preclinical and clinical trial data for our other product candidates, which could delay, limit, or prevent regulatory approval or clearance. Delays or difficulties in obtaining regulatory approvals or clearances for Oncophage and/or our product candidates may:

adversely affect the marketing of any products we or our licensees or collaborators develop;

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impose significant additional costs on us or our licensees or collaborators;

diminish any competitive advantages that we or our licensees or collaborators may attain;

limit our ability to receive royalties and generate revenue and profits; and

adversely affect our business prospects and ability to obtain financing.

Delays or failures in our receiving regulatory approval for our product candidates in a timely manner may result in us having to incur additional development expense and subject us to having to secure additional financing. As a result, we will not be able to commercialize them in the timeframe anticipated, and our business will suffer.

New data from our research and development activities and/or resource considerations could modify our strategy and result in the need to adjust our projections of timelines and costs of programs.

Because we are focused on novel technologies, our research and development activities, including our nonclinical studies and clinical trials, involve the ongoing discovery of new facts and the generation of new data, based on which we determine next steps for a relevant program. These developments can occur with varying frequency and constitute the basis on which our business is conducted. We need to make determinations on an ongoing basis as to which of these facts or data will influence timelines and costs of programs. We may not always be able to make such judgments accurately, which may increase the costs we incur attempting to commercialize our product candidates. We monitor the likelihood of success of our initiatives and we may need to discontinue funding of such activities if they do not prove to be commercially feasible, due to our limited resources. These issues are pronounced in our efforts to commercialize Oncophage, which represents an unprecedented approach to the treatment of cancer.

We may need to successfully address a number of technological challenges in order to complete development of our product candidates. Moreover, these product candidates may not be effective in treating any disease or may prove to have undesirable or unintended side effects, toxicities, or other characteristics that may preclude our obtaining regulatory approvals or prevent or limit commercial use.

Failure to enter into significant collaboration agreements may hinder our efforts to develop and commercialize our product candidates and will increase our need to rely on other financing mechanisms, such as sales of debt or equity securities, to fund our operations.

We have been engaged in efforts to enter into collaborative agreements with one or more pharmaceutical or larger biotechnology companies to assist us with development and/or commercialization of our product candidates. If we are successful in entering into a collaborative agreement, we may not be able to negotiate agreements with economic terms similar to those negotiated by other companies. We may not, for example, obtain significant upfront payments or substantial royalty rates. If we fail to enter into collaboration agreements, our efforts to develop and/or commercialize our products or product candidates may be undermined. In addition, if we do not raise funds through collaboration agreements, we will need to rely on other financing mechanisms, such as sales of debt or equity securities, to fund our operations. Sales of certain securities may substantially dilute the ownership of existing stockholders. If we are unable to complete the sale of such securities, we may become insolvent.

While we have been pursuing these business development efforts for several years, we have not entered into an agreement relating to the potential development or commercialization of Oncophage. Due to the announcements in March 2006 that part I of our Phase 3 trial in renal cell carcinoma did not achieve its primary endpoint in the intent to treat population, and in November 2009 that the CHMP adopted a negative opinion on our MAA, and because companies may be skeptical regarding the potential success of a patient-specific product candidate, many companies may be unwilling to commit to an agreement prior to receipt of additional clinical

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data, if at all. In the absence of such data, potential collaborative partners may demand economic terms that are unfavorable to us, or may be unwilling to collaborate with us at all. Even if Oncophage generates favorable clinical data over the next several years, we may not be able to negotiate a collaborative transaction at all, or negotiate one that provides us with favorable economic terms.

In addition, we would consider license and/or co-development opportunities to advance Aroplatin and AG-707. These products are at an early stage, and collaborative partners or licensees may defer discussions until results from early clinical trials become available, or they may not engage in such discussions at all. Further work on these programs is on hold due to cost-containment efforts.

Because we rely on collaborators and licensees for the development and commercialization of some of our product candidate programs, these programs may not prove successful, and/or we may not receive significant payments from such parties.

Part of our strategy is to develop and commercialize some of our product candidates by continuing our existing arrangements with academic and corporate collaborators and licensees and by entering into new collaborations. Our success depends on our ability to negotiate such agreements and on the success of the other parties in performing research, preclinical and clinical testing, completing regulatory applications, and commercializing product candidates. For example, the development of Oncophage for the treatment of glioma is currently dependent in large part on the efforts of our institutional collaborators, such as the Brain Tumor Research Center at the University of California, San Francisco, which is conducting Phase 2 clinical trials of Oncophage for the treatment of glioma. In addition, all product candidates containing QS-21 depend on the success of our collaborative partners or licensees, and the Company s relationships with these third parties. Such product candidates depend on the successful and adequate manufacture and/or supply of QS-21, and our collaborators and licensees successfully enrolling patients and completing clinical trials, being committed to dedicating the resources to advance these product candidates, obtaining regulatory approvals, and successfully commercializing product candidates.

These development activities may fail to produce marketable products due to unsuccessful results or abandonment of these programs, failure to enter into future collaborations or license agreements, or the inability to manufacture product supply requirements for our collaborators and licensees. For example, in August 2006, Pharmexa A/S announced a decision to cease dosing patients in their Phase 2 clinical trial of their HER-2 Protein AutoVac breast cancer vaccine containing our QS-21 adjuvant, after it was determined that the trial was unlikely to meet its primary endpoint. Several of our agreements also require us to transfer important rights and regulatory compliance responsibilities to our collaborators and licensees. As a result of collaborative agreements, we will not control the nature, timing, or cost of bringing these product candidates to market. Our collaborators and licensees could choose not to devote resources to these arrangements or, under certain circumstances, may terminate these arrangements early. They may cease pursuing product candidates or elect to collaborate with different companies. In addition, these collaborators and licensees, outside of their arrangements with us, may develop technologies or products that are competitive with those that we are developing. From time to time, we may also become involved in disputes with our collaborators or licensees. Such disputes could result in the incurrence of significant expense, or the termination of collaborations. We may be unable to fulfill all of our obligations to our collaborators, which may result in the termination of collaborations. As a result of these factors, our strategic collaborations may not yield revenue. Furthermore, we may be unable to enter into new collaborations or enter into new collaborations on favorable terms. Failure to generate significant revenue from collaborations would increase our need to fund our operations through sales of debt or equity securities and would negatively affect our business prospects.

If we are unable to purify heat shock proteins from some cancer types, we may have difficulty successfully initiating clinical trials in new indications or completing our clinical trials, and, even if we do successfully complete our clinical trials, the size of our potential market could decrease.

Our ability to successfully develop and commercialize Oncophage for a particular cancer type depends in part on our ability to purify heat shock proteins from that type of cancer. If we experience difficulties in purifying

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heat shock proteins for a sufficiently large number of patients in our clinical trials, we may face delays in enrolling sufficient patients and subsequently utilize more internal resources to satisfy enrolment requirements. Manufacturing failures may also lower the probability of a successful analysis of the data from clinical trials and, ultimately, the ability to obtain regulatory approvals. We have successfully manufactured product across many different cancer types, however, the success rate per indication has varied. We have evolved our manufacturing processes to better accommodate a wider range of tumor types. Our current manufacturing technologies have been successful in manufacturing product from 92% of the RCC tumors received and 81% of the tumors received for patients enrolled in our ongoing clinical trials in glioma. We expect to continue to devote resources to allow for a better evaluation of tumor characteristics and screening methods in an attempt to increase manufacturing success rates.

We may encounter problems with other types of cancer as we expand our research. If we cannot overcome these problems, the number of cancer types that our heat shock protein product candidates could treat would be limited. In addition, if we commercialize our heat shock protein product candidates, we may not be able to replicate past manufacturing success rates and we may face claims from patients for whom we are unable to produce a vaccine.

If we fail to sustain and further build our intellectual property rights, competitors will be able to take advantage of our research and development efforts to develop competing products.

If we are not able to protect our proprietary technology, trade secrets, and know-how, our competitors may use our inventions to develop competing products. We currently have exclusive rights to 75 issued United States patents and 108 issued foreign patents. We also have exclusive rights to 10 pending United States patent applications and 54 pending foreign patent applications. However, we currently do not have any issued patents in Russia covering Oncophage and we may not have rights to Oncophage patents in other territories where we may pursue regulatory approval. In addition, our patents may not protect us against our competitors. Our patent positions, and those of other pharmaceutical and biotechnology companies, are generally uncertain and involve complex legal, scientific, and factual questions. The standards which the United States Patent and Trademark Office uses to grant patents, and the standards which courts use to interpret patents, are not always applied predictably or uniformly and can change, particularly as new technologies develop. Consequently, the level of protection, if any, that will be provided by our patents if we attempt to enforce them, and they are challenged, is uncertain. In addition, the type and extent of patent claims that will be issued to us in the future is uncertain. Any patents that are issued may not contain claims that permit us to stop competitors from using similar technology.

In addition to our patented technology, we also rely on unpatented technology, trade secrets, and confidential information. We may not be able to effectively protect our rights to this technology or information. Other parties may independently develop substantially equivalent information and techniques or otherwise gain access to or disclose our technology. We generally require each of our employees, consultants, collaborators, and certain contractors to execute a confidentiality agreement at the commencement of an employment, consulting, collaborative, or contractual relationship with us. However, these agreements may not provide effective protection of our technology or information, or in the event of unauthorized use or disclosure, they may not provide adequate remedies.

We may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights, and we may be unable to protect our rights in, or to use, our technology.

There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the pharmaceutical and biotechnology industries. We may become a party to patent litigation or other proceedings regarding intellectual property rights.

If we choose to go to court to stop someone else from using the inventions claimed in our patents, that individual or company has the right to ask a court to rule that our patents are invalid and should not be enforced

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against that third party. These lawsuits are expensive and would consume time and other resources even if we were successful in stopping the infringement of our patents. In addition, there is a risk that the court will decide that our patents are not valid and that we do not have the right to stop the other party from using the claimed inventions. There is also the risk that, even if the validity of our patents is upheld, the court will refuse to stop the other party on the grounds that such other party s activities do not infringe our patents.

We may not have rights under some patents or patent applications related to some of our existing and proposed products or processes. Third parties may own or control these patents and patent applications in the United States and abroad. Therefore, in some cases, such as those described below, in order to develop, use, manufacture, sell, or import some of our existing or proposed products, or develop or use some of our existing or proposed processes, we or our collaborators may choose to seek, or be required to seek, licenses under third-party patents issued in the United States and abroad, or those that might issue from United States and foreign patent applications. In such an event, we likely would be required to pay license fees or royalties or both to the licensor. If licenses are not available to us on acceptable terms, we or our collaborators may not be able to exploit these products or processes.

Furthermore, a third party may claim that we are using inventions covered by such third-party s patents or other intellectual property rights and may go to court to stop us from engaging in our normal operations and activities. These lawsuits are expensive. Some of our competitors may be able to sustain the cost of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. There is a risk that a court would decide that we are infringing the third-party s patents and would order us to stop the activities covered by the patents. In addition, there is a risk that a court will order us to pay the other party substantial damages for having violated the other party s patents. The biotechnology industry has produced a proliferation of patents, and it is not always clear to industry participants, including us, which patents cover various types of products. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. Moreover, patent holders sometimes send communications to a number of companies in related fields suggesting possible infringement, and we, like a number of biotechnology companies, have received such communications, including communications alleging infringement of a patent relating to certain gel-fiberglass structures. If we are sued for patent infringement, we would need to demonstrate that our products either do not infringe the patent claims of the relevant patent and/or that the patent claims are invalid, which we may not be able to do. Proving invalidity, in particular, is difficult, since it requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents.

If patent litigation or other proceeding is resolved against us, we or our licensees or collaborators may be enjoined from using, manufacturing, selling, or importing our products or processes without a license from the other party, and we may be held liable for significant damages. We may not be able to obtain any required licenses on commercially acceptable terms or at all.

Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to enter into collaborations with other entities, obtain financing, or compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time and other resources.

Our patent protection for any compound or product that we seek to develop may be limited to a particular method of use or indication such that, if a third party were to obtain approval of the compound or product for use in another indication, we could be subject to competition arising from off-label use.

The patent landscape in our business is becoming increasingly congested with competing applications for protection of closely related compounds and technologies that arise from both industrial and academic research. Although we generally seek the broadest patent protection available for our proprietary compounds, competing art may prevent us from obtaining patent protection for the actual composition of matter of any particular compound and we may be limited to protecting a new method of use for the compound or otherwise restricted in

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our ability to prevent others from exploiting the compound. If we are unable to obtain patent protection for the actual composition of matter of any compound that we seek to develop and commercialize and must rely on method of use patent coverage, we would likely be unable to prevent others from manufacturing or marketing that compound for any use that is not protected by our patent rights. If a third party were to receive marketing approval for the compound for another use, physicians might nevertheless prescribe it for indications that are not described in the product s labeling or approved by the FDA or other regulatory authorities. Even if we have patent protection of the prescribed indication, as a practical matter, we likely would have little recourse as a result of this off-label use. In that event, our revenues from the commercialization of the compound would likely be adversely affected.

If we fail to comply with our obligations in our intellectual property licenses with third parties, we could lose license rights that are important to our business.

We are a party to various license agreements under which we receive the right to practice and use important third-party patent rights and we may enter into additional licenses in the future. Our existing licenses impose, and we expect future licenses will impose, various diligence, milestone payment, royalty, insurance, and other obligations on us. If we fail to comply with these obligations, the licensor may have the right to terminate the license, in which event we might not be able to market any product that is covered by the licensed patents.

If we fail to retain the services of, and/or maintain positive relations with, key individuals and our employees, we may not be able to achieve our strategic and operational objectives.

Garo H. Armen, Ph.D., the Chairman of our Board of Directors and our Chief Executive Officer, co-founded Antigenics in 1994 with Pramod K. Srivastava, Ph.D., and has been and continues to be integral to building our company and developing our technology. If Dr. Armen severed his relationship with Antigenics, our business may be adversely impacted.

Effective December 1, 2005, we entered into an employment agreement with Dr. Armen. Subject to the earlier termination as provided in the agreement, the agreement had an original term of one year and is automatically extended thereafter for successive terms of one year each, unless either party provides notice to the other at least ninety days prior to the expiration of the original or any extension term. Dr. Armen plays an important role in our day-to-day activities. We do not carry key employee insurance policies for Dr. Armen or any other employee.

Dr. Srivastava currently has a consulting agreement with us pursuant to which he is retained to provide advice and services to Antigenics from time to time. This agreement has an initial term ending March 31, 2011.

We also rely greatly on employing and retaining other highly trained and experienced senior management and scientific and operations personnel. The competition for these and other qualified personnel in the biotechnology field is intense. In order to reduce our expenses, we have eliminated certain employee benefits, restructured our business, and reduced staffing levels. This restructuring has eliminated any redundancy in skills and capabilities in key areas. If we are not able to attract and retain qualified personnel, we may not be able to achieve our strategic and operational objectives.

We may face litigation that could result in substantial damages and may divert management s time and attention from our business.

Antigenics, our Chairman and Chief Executive Officer, Garo H. Armen, Ph.D., and two investment banking firms that served as underwriters in our initial public offering have been named as defendants in a federal civil class action lawsuit pending in the United States District Court for the Southern District of New York. Substantially similar actions were filed concerning the initial public offerings for more than 300 different issuers, and the cases were coordinated as *In re Initial Public Offering Securities Litigation*, 21 MC 92 for pre-trial

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purposes. The suit alleges that the brokerage arms of the investment banking firms charged secret excessive commissions to certain of their customers in return for allocations of our stock in the offering. The suit also alleges that shares of our stock were allocated to certain of the investment banking firms customers based upon agreements by such customers to purchase additional shares of our stock in the secondary market. Dr. Armen has been dismissed without prejudice from the lawsuit pursuant to a stipulation. In June 2004, a stipulation of settlement and release of claims against the issuer defendants, including us, was submitted to the Court for approval. The Court preliminarily approved the settlement in August 2005. In December 2006, the appellate court overturned the certification of classes in six test cases that were selected by the underwriter defendants and plaintiffs in the coordinated proceedings. The case involving Antigenics is not one of the six test cases. Class certification had been one of the conditions of the settlement. Accordingly, on June 25, 2007, the Court entered an order terminating the proposed settlement based on a stipulation among the parties to the settlement. Plaintiffs have filed amended master allegations and amended complaints in the six test cases. On March 26, 2008, the Court largely denied the defendants motion to dismiss the amended complaints. The parties have reached a global settlement of the litigation. On October 5, 2009, the Court entered an order granting final approval of the settlement. Under the settlement, the insurers will pay the full amount of settlement share allocated to the defendants, and the defendants will bear no financial liability. The company defendants, as well as the officer and director defendants who were previously dismissed from the action pursuant to tolling agreements, will receive complete dismissals from the case. A group of objectors has filed a petition requesting permission to appeal the Court s October 5, 2009 order certifying the settlement class. If for any reason the settlement does not become effective, we believe we have meritorious defenses to the claims and intend to defend the action vigorously. We are unable to predict the likelihood of an unfavorable outcome or estimate our potential liability, if any.

In addition, we may currently be, or may become involved in additional litigation. Any such litigation could be expensive in terms of out-of-pocket costs and management time, and the outcome of any such litigation is uncertain.

Our directors and officers insurance policies provide $30.0 million of coverage. This insurance coverage may not be sufficient to cover us for future claims.

Product liability and other claims against us may reduce demand for our products and/or result in substantial damages.

We face an inherent risk of product liability exposure related to testing our product candidates in human clinical trials and will face even greater risks upon the sale of Oncophage commercially, as well as if we sell our other product candidates commercially. An individual may bring a product liability claim against us if Oncophage or one of our product candidates causes, or merely appears to have caused, an injury. Product liability claims may result in:

- decreased demand for Oncophage or our product candidates;
- regulatory investigations;
- injury to our reputation;
- withdrawal of clinical trial volunteers;
- costs of related litigation; and
- substantial monetary awards to plaintiffs.

We manufacture Oncophage from a patient s cancer cells, and a medical professional must inject Oncophage into the same patient from which it was manufactured. A patient may sue us if a hospital, a shipping company, or we fail to deliver the removed cancer tissue or that patient s Oncophage. We anticipate that the logistics of shipping will become more complex if the number of patients we treat increases and that shipments of tumor and/or Oncophage may be lost, delayed, or damaged. Additionally, complexities unique to the logistics

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of commercial products may delay shipments and limit our ability to move commercial product in an efficient manner without incident. Currently, we do not have insurance that covers loss of or damage to Oncophage or tumor material, and we do not know whether such insurance will be available to us at a reasonable price or at all. We have limited product liability coverage for use of our product candidates. Our product liability policy provides $10.0 million aggregate coverage and $10.0 million per occurrence coverage. This limited insurance coverage may be insufficient to fully cover us for future claims.

If we do not comply with environmental laws and regulations, we may incur significant costs and potential disruption to our business.

We use hazardous, infectious, and radioactive materials, and recombinant DNA in our operations, which have the potential of being harmful to human health and safety or the environment. We store these hazardous (flammable, corrosive, toxic), infectious, and radioactive materials, and various wastes resulting from their use, at our facilities pending use and ultimate disposal. We are subject to a variety of federal, state, and local laws and regulations governing use, generation, storage, handling, and disposal of these materials. We may incur significant costs complying with both current and future environmental health and safety laws and regulations. In particular, we are subject to regulation by the Occupational Safety and Health Administration, the Environmental Protection Agency, the Drug Enforcement Agency, the Department of Transportation, the Centers for Disease Control and Prevention, the National Institutes of Health, the International Air Transportation Association, and various state and local agencies. At any time, one or more of the aforementioned agencies could adopt regulations that may affect our operations. We are also subject to regulation under the Toxic Substances Control Act and the Resource Conservation Development programs.

Although we believe that our current procedures and programs for handling, storage, and disposal of these materials comply with federal, state, and local laws and regulations, we cannot eliminate the risk of accidents involving contamination from these materials. Although we have limited pollution liability coverage ($2.0 million) and a workers compensation liability policy, we could be held liable for resulting damages in the event of an accident or accidental release, and such damages could be substantially in excess of any available insurance coverage and could substantially disrupt our business.

Risks Related to our Common Stock

Our officers and directors may be able to block proposals for a change in control.

Antigenics Holdings LLC is a holding company that owns shares of our common stock, and as of December 31, 2009, Antigenics Holdings LLC controlled approximately 12% of our outstanding common stock. Due to this concentration of ownership, Antigenics Holdings LLC can substantially influence all matters requiring a stockholder vote, including:

- the election of directors;
- the amendment of our organizational documents; or
- the approval of a merger, sale of assets, or other major corporate transaction.

Our Chief Executive Officer directly and indirectly owns approximately 48% of Antigenics Holdings LLC. In addition, several of our directors and officers directly and indirectly own approximately 4% of our outstanding common stock.

The unaffiliated holders of certain convertible securities have the right to convert such securities into a substantial percentage of our outstanding common stock.

According to publicly filed documents, Mr. Brad M. Kelley beneficially owns 5,546,240 shares of our outstanding common stock and 31,620 shares of our series A convertible preferred stock. The shares of preferred

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stock are currently convertible at any time into 2,000,000 shares of common stock at an initial conversion price of $15.81, are non-voting, and carry a 2.5% annual dividend yield. If Mr. Kelley had converted all of the shares of preferred stock on December 31, 2009, he would have held approximately 8% of our outstanding common stock. We currently have a right of first refusal agreement with Mr. Kelley that provides us with limited rights to purchase certain of Mr. Kelley s shares if he proposes to sell them to a third party.

Mr. Kelley s substantial ownership position provides him with the ability to substantially influence the outcome of matters submitted to our stockholders for approval. Furthermore, collectively, Mr. Kelley and Antigenics Holdings LLC control approximately 19% of our outstanding common stock as of December 31, 2009, providing substantial ability, if they vote in the same manner, to determine the outcome of matters submitted to a stockholder vote. If Mr. Kelley were to convert all of his preferred stock into common stock, the combined total would increase to 20%. Additional purchases of our common stock by Mr. Kelley also would increase both his percentage of outstanding voting rights and the percentage combined with Antigenics Holdings LLC. While Mr. Kelley s shares of preferred stock do not carry voting rights, the shares of common stock issuable upon conversion carry the same voting rights as other shares of common stock.

On October 30, 2006, we issued $25.0 million of our 2006 Notes to a group of institutional investors. These 2006 Notes, together with any interest paid in the form of additional 2006 Notes, are convertible into our common stock at a conversion price of $3.00 per share at the option of the investors. On December 31, 2009, one holder of the 2006 Notes had holdings which, if totally converted into shares of our common stock, would result in this holder owning 8,548,000 shares. If such holder had exercised such conversion right on December 31, 2009, such holder would have owned approximately 9% of our outstanding common stock.

While the 2006 Notes do not carry any voting rights, the common stock issuable upon conversion of such securities do carry the same voting rights as other shares of common stock. The ownership positions following any such conversion, along with any open market purchases by such holders, could provide the holders with the ability to substantially influence the outcome of matters submitted to our stockholders for approval.

Provisions in our organizational documents could prevent or frustrate attempts by stockholders to replace our current management.

Our certificate of incorporation and bylaws contain provisions that could make it more difficult for a third party to acquire us without the consent of our Board of Directors. Our certificate of incorporation provides for a staggered board and removal of directors only for cause. Accordingly, stockholders may elect only a minority of our Board at any annual meeting, which may have the effect of delaying or preventing changes in management. In addition, under our certificate of incorporation, our Board of Directors may issue additional shares of preferred stock and determine the terms of those shares of stock without any further action by our stockholders. Our issuance of additional preferred stock could make it more difficult for a third party to acquire a majority of our outstanding voting stock and thereby effect a change in the composition of our Board of Directors. Our certificate of incorporation also provides that our stockholders may not take action by written consent. Our bylaws require advance notice of stockholder proposals and director nominations and permit only our President or a majority of the Board of Directors to call a special stockholder meeting. These provisions may have the effect of preventing or hindering attempts by our stockholders to replace our current management. In addition, Delaware law prohibits a corporation from engaging in a business combination with any holder of 15% or more of its capital stock until the holder has held the stock for three years unless, among other possibilities, the board of directors approves the transaction. Our Board of Directors may use this provision to prevent changes in our management. Also, under applicable Delaware law, our Board of Directors may adopt additional anti-takeover measures in the future.

Our stock has historically had low trading volume, and its public trading price has been volatile.

Between our initial public offering on February 4, 2000 and December 31, 2009, and for the year ended December 31, 2009, the closing price of our common stock has fluctuated between $0.30 and $52.63 per share

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and $0.30 and $2.99 per share, respectively. The average daily trading volume for the year ended December 31, 2009 was approximately 1,925,000 shares, which is a significant increase from our average trading volume for the twelve months ended March 31, 2009 of 238,000 shares. The market may experience significant price and volume fluctuations that are often unrelated to the operating performance of individual companies. In addition to general market volatility, many factors may have a significant adverse effect on the market price of our stock, including:

- continuing operating losses, which we expect over the next several years as we continue our development activities;
- announcements of decisions made by public officials;
- results of our preclinical studies and clinical trials;
- announcements of technological innovations, new commercial products, failures of products, or progress toward commercialization by our competitors or peers;
- developments concerning proprietary rights, including patent and litigation matters;
- publicity regarding actual or potential results with respect to product candidates under development; and
- quarterly fluctuations in our financial results.

The sale of a significant number of shares could cause the market price of our stock to decline.

The sale by us or the resale by stockholders of a significant number of shares of our common stock could cause the market price of our common stock to decline. As of December 31, 2009, we had approximately 89,754,000 shares of common stock outstanding. All of these shares are eligible for sale on The NASDAQ Capital Market, although certain of the shares are subject to sales volume and other limitations. We have filed registration statements to permit the sale of approximately 25,437,000 shares of common stock under our equity incentive plan and certain equity plans that we assumed in our acquisitions of Aquila Biopharmaceuticals, Inc. and Aronex Pharmaceuticals, Inc. We have also filed registration statements to permit the sale of 1,000,000 shares of common stock under our employee stock purchase plan, to permit the sale of 450,000 shares of common stock under our Directors Deferred Compensation Plan, to permit the sale of 17,417,434 shares of common stock pursuant to the private placement agreement dated January 9, 2008, to permit the sale of 14,000,000 shares of common stock pursuant to the private placement agreement dated April 8, 2008, to permit the sale of 9,673,900 shares of common stock pursuant to a private placement agreement dated July 30, 2009 and to permit the sale of 8,552,632 shares of common stock pursuant to a private placement agreement dated August 3, 2009. As of December 31, 2009, an aggregate of 41,179,000 shares remain available for sale under these registration statements. The market price of our common stock may decrease based on the expectation of such sales.

As of December 31, 2009, options to purchase 6,148,621 shares of our common stock with a weighted average exercise price per share of $2.93 were outstanding. Many of these options are subject to vesting that generally occurs over a period of up to four years following the date of grant. As of December 31, 2009, we have 200,029 nonvested shares outstanding.

Our stock may be delisted from The NASDAQ Capital Market, which could affect its market price and liquidity.

Our common stock is currently listed on The NASDAQ Capital Market under the symbol AGEN. In the event that we fail to satisfy any of the listing requirements, our common stock may be put under review or removed from the listing on The NASDAQ Capital Market.

On December 30, 2009, we were notified by the Staff indicating that we are not in compliance with the Bid Price Requirement because the bid price for our common stock had closed below the minimum $1.00 per share

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requirement for 30 consecutive business days. In accordance with Nasdaq Marketplace Rule 5810(c)(3)(A), we have been provided 180 calendar days, or until June 28, 2010, to regain compliance with the Bid Price Requirement. After the initial 180 calendar day period, we may be eligible for an additional 180 day compliance period to regain compliance with the Bid Price Requirement, assuming we continue to meet The NASDAQ Capital Market initial listing criteria set forth in Nasdaq Marketplace Rule 5505, excluding the Bid Price Requirement. To regain compliance with the minimum bid price continued listing requirement, the bid price of our common stock must close at $1.00 per share or more for a minimum of ten consecutive business days. The Staff may, in its discretion, require our common stock to maintain a bid price of at least $1.00 per share for a period in excess of ten consecutive business days before determining that we have demonstrated an ability to maintain long-term compliance.

If compliance is not demonstrated within the applicable compliance period, the Staff will notify us that our securities will be delisted from The NASDAQ Capital Market. However, we may appeal the Staff s determination to delist our securities to a Hearings Panel. During any appeal process, shares of our common stock would continue to trade on The NASDAQ Capital Market. There can be no assurance that we will meet the requirements for continued listing on The NASDAQ Capital Market or whether any appeal would be granted by the Hearings Panel.

Because we are a small public company we believe we have been disproportionately negatively impacted by the Sarbanes-Oxley Act of 2002 and related regulations which have increased our costs in the past and have required additional management resources.

The Sarbanes-Oxley Act of 2002 and rules adopted by the SEC and the NASDAQ have resulted in significant costs to us. In particular, our efforts to comply with Section 404 of the Sarbanes-Oxley Act of 2002 and related regulations regarding the required assessment of our internal control over financial reporting, and our independent registered public accounting firm s audit of internal control over financial reporting, have required commitments of significant management time. We expect these commitments to continue. Additionally, these laws and regulations could make it more difficult for us to attract and retain qualified members for our Board of Directors, particularly independent directors, or qualified executive officers.

Our internal control over financial reporting (as defined in Rules 13a-15 of the Securities Exchange Act) is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our consolidated financial statements for external purposes in accordance with U.S. generally accepted accounting principles. Because of its inherent limitations, internal control over financial reporting may not prevent or detect all deficiencies or weaknesses in our financial reporting. While our management has concluded that there were no material weaknesses in our internal control over financial reporting as of December 31, 2009, our procedures are subject to the risk that our controls may become inadequate because of changes in conditions or as a result of a deterioration in compliance with such procedures. No assurance is given that our procedures and processes for detecting weaknesses in our internal control over financial reporting will be effective.

Item 1B. ***Unresolved Staff Comments***

We have received no written comments from the staff of the SEC regarding our periodic or current reports that (1) we believe are material, (2) were issued not less than 180 days before the end of our 2009 fiscal year, and (3) remain unresolved.

Item 2. ***Properties***

We maintain our corporate offices in Lexington, Massachusetts, in a 162,000 square foot facility under a lease agreement that terminates in August 2013. We have an option to renew this lease for two additional ten-year periods.

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In addition, we lease approximately 40,000 square feet of laboratory, office, and manufacturing space in Framingham, Massachusetts under a lease agreement that terminates in September 2010. We have an option to renew the lease for two additional five-year periods. We have sublet this entire facility.

We also lease approximately 5,400 square feet in an office building in New York, New York. Our New York lease terminates in April 2012.

We believe substantially all of our property and equipment is in good condition and that we have sufficient capacity to meet our current operational needs. We do not anticipate experiencing significant difficulty in retaining occupancy of any of our manufacturing or office facilities and will do so through lease renewals prior to expiration or through replacing them with equivalent facilities.

Item 3. ***Legal Proceedings***

Antigenics, our Chairman and Chief Executive Officer, Garo H. Armen, Ph.D., and two investment banking firms that served as underwriters in our initial public offering have been named as defendants in a federal civil class action lawsuit pending in the United States District Court for the Southern District of New York. Substantially similar actions were filed concerning the initial public offerings for more than 300 different issuers, and the cases were coordinated as *In re Initial Public Offering Securities Litigation*, 21 MC 92 for pre-trial purposes. The suit alleges that the brokerage arms of the investment banking firms charged secret excessive commissions to certain of their customers in return for allocations of our stock in the offering. The suit also alleges that shares of our stock were allocated to certain of the investment banking firms customers based upon agreements by such customers to purchase additional shares of our stock in the secondary market. Dr. Armen has been dismissed without prejudice from the lawsuit pursuant to a stipulation. In June 2004, a stipulation of settlement and release of claims against the issuer defendants, including us, was submitted to the Court for approval. The Court preliminarily approved the settlement in August 2005. In December 2006, the appellate court overturned the certification of classes in six test cases that were selected by the underwriter defendants and plaintiffs in the coordinated proceedings. Class certification had been one of the conditions of the settlement. Accordingly, on June 25, 2007, the Court entered an order terminating the proposed settlement based on a stipulation among the parties to the settlement. Plaintiffs have filed amended master allegations and amended complaints and moved for class certification in the six test cases, which the defendants in those cases have opposed. On March 26, 2008, the Court largely denied the defendants motion to dismiss the amended complaints. The parties have reached a global settlement of the litigation. Under the settlement, the insurers will pay the full amount of settlement share allocated to the defendants, and the defendants will bear no financial liability. The company defendants, as well as the officer and director defendants who were previously dismissed from the action pursuant to tolling agreements, will receive complete dismissals from the case. On October 5, 2009, the Court entered an order granting final approval of the settlement. Certain objectors have appealed the Court s October 5, 2009 order. If for any reason the settlement does not become effective, we believe we have meritorious defenses to the claims and intend to defend the action vigorously. We are unable to predict the likelihood of an unfavorable outcome or estimate our potential liability, if any.

We may currently be a party, or may become a party, to other legal proceedings, claims and investigations that arise in the ordinary course of business such as, but not limited to, patent, employment, commercial and environmental matters, as well. While we currently believe that the ultimate outcome of any of these proceedings will not have a material adverse effect on our financial position, results of operations, or liquidity, litigation is subject to inherent uncertainty. Furthermore, litigation consumes both cash and management attention.

Item 4. ***Reserved***

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PART II

Item 5. ***Market for Registrant s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities***

Our common stock is currently listed on The NASDAQ Capital Market under the symbol AGEN.

On December 30, 2009, we were notified by the Staff indicating that we are not in compliance with the Bid Price Requirement because the bid price for our common stock has closed below the minimum $1.00 per share requirement for 30 consecutive business days. In accordance with Nasdaq Marketplace Rule 5810(c)(3)(A), we have been provided 180 calendar days, or until June 28, 2010, to regain compliance with the Bid Price Requirement. To regain compliance, with the minimum bid price continued listing requirement, the bid price of our common stock must close at $1.00 per share or more for a minimum of ten consecutive business days. The Staff may, in its discretion, extend the timeline beyond the minimum ten consecutive business days.

The following table sets forth, for the periods indicated, the high and low sale prices per share of our common stock.

	High	Low
2008		
First Quarter	$ 2.58	$ 2.00
Second Quarter	3.90	1.56
Third Quarter	2.09	1.37
Fourth Quarter	1.63	0.39
2009		
First Quarter	0.60	0.19
Second Quarter	3.34	0.43
Third Quarter	3.11	1.46
Fourth Quarter	2.24	0.63

As of March 1, 2010, there were approximately 1,900 holders of record and approximately 26,200 beneficial holders of our common stock.

We have never paid cash dividends on our common stock, and we do not anticipate paying any cash dividends in the foreseeable future. We currently intend to retain future earnings, if any, for the future operation and expansion of our business. Any future payment of dividends on our common stock will be at the discretion of our Board of Directors and will depend upon, among other things, our earnings, financial condition, capital requirements, level of indebtedness, and other factors that our Board of Directors deems relevant.

Stock Performance

The following graph shows the cumulative total stockholder return on our common stock over the period from December 31, 2004 to December 31, 2009, as compared with that of the NASDAQ Stock Market (U.S. Companies) Index and the NASDAQ Biotechnology Index, based on an initial investment of $100 in each on December 31, 2004. Total stockholder return is measured by dividing share price change plus dividends, if any, for each period by the share price at the beginning of the respective period, and assumes reinvestment of dividends.

This stock performance graph shall not be deemed filed with the SEC or subject to Section 18 of the Securities Exchange Act, nor shall it be deemed incorporated by reference in any of our filings under the Securities Act of 1933, as amended (the Securities Act).

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COMPARISON OF CUMULATIVE TOTAL RETURN OF ANTIGENICS INC.,

NASDAQ STOCK MARKET (U.S. COMPANIES) INDEX

AND NASDAQ BIOTECHNOLOGY INDEX

	12/31/2004	12/31/2005	12/31/2006	12/31/2007	12/31/2008	12/31/2009
Antigenics Inc.	100.00	47.04	18.08	20.16	4.74	6.32
NASDAQ Stock Market (U.S. Companies) Index	100.00	101.37	111.03	121.92	72.49	104.31
NASDAQ Biotechnology Index	100.00	102.84	103.89	108.65	94.93	109.77

Recent Sales of Unregistered Securities

The below listed payments relate to compensation to a third-party consultant, Raifarm Limited or its affiliates (collectively, Raifarm), for services rendered in relation to the registration and commercialization activities in Russia for Oncophage pursuant to a Master Services Agreement between us and Raifarm, as amended from time to time. The offer, issuance and delivery of the below listed shares of common stock to Raifarm in the manner contemplated by the Master Services Agreement did not require registration under Section 5 of the Securities Act because the transactions were exempted transactions under Section 4(2) of the Securities Act. This determination was based upon and assuming the accuracy of representations and warranties we obtained by Raifarm and compliance by Raifarm with the offering and transfer procedures and restrictions described in the Master Services Agreement and related documents with Raifarm.

	Title of Each Class of Security	Amount of Securities	Nature of Transaction
September 2007	Common Stock, par value $0.01	8,333	Shares issued for services rendered
Various dates, February July, 2008	Common Stock, par value $0.01	346,509	Shares issued for services rendered

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Information concerning our equity compensation plans is set forth in our Definitive Proxy Statement with respect to our 2010 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission no later than 120 days after the end of the fiscal year under the heading Equity Plans, which is incorporated herein by reference.

Item 6. ***Selected Financial Data***

We have derived the consolidated balance sheet data set forth below as of December 31, 2009 and 2008, and the consolidated statement of operations data for each of the years in the three-year period ended December 31, 2009, from our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K. Certain amounts previously reported have been adjusted in order to conform to the current period s presentation, including changes resulting from the January 1, 2009 retrospective adoption of Financial Accounting Standards Board Staff Position APB 14-1, *Accounting for Convertible Debt Instruments That May Be Settled in Cash Upon Conversion (Including Partial Cash Settlement)* contained within Accounting Standards Codification 470-20, *Debt Debt with Conversion and Other Options*.

You should read the selected consolidated financial data in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations, our consolidated financial statements, and the notes to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

Given our history of incurring operating losses, management believes that it is more likely than not that any deferred tax assets will not be realized through future earnings. Therefore, no income tax benefit has been recognized in the consolidated statements of operations because of the loss before income taxes, and the need to recognize a valuation allowance on the portion of our deferred tax assets, which will not be offset by the reversal of deferred tax liabilities (see Note (1) below).

Changes in cash, cash equivalents, and short-term investments, total current assets, total assets, and stockholders (deficit) equity in the periods presented below include the effects of the receipt of net proceeds from our debt offerings, equity offerings, the exercise of stock options and warrants, and employee stock purchases that totaled approximately $18.7 million, $46.9 million, $4.6 million, $25.4 million, and $48.3 million in the years ended December 31, 2009, 2008, 2007, 2006, and 2005, respectively.

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	For the Year Ended December 31,				
	2009	2008	2007	2006	2005
	(In thousands, except per share data)				
			(As adjusted)		
Consolidated Statement of Operations Data:					
Revenue	$ 3,334	$ 2,651	$ 5,552	$ 692	$ 630
Operating expenses:					
Research and development	(16,903)	(20,663)	(21,789)	(28,643)	(47,080)
General and administrative	(14,110)	(19,832)	(17,041)	(21,288)	(25,868)
Restructuring costs				(1,374)	(1,596)
Loss from operations	(27,679)	(37,844)	(33,278)	(50,613)	(73,914)
Non-operating income	2,568	12,356	1	141	1
Interest expense, net	(5,207)	(5,313)	(4,658)	(2,287)	(906)
Net loss (1)	(30,318)	(30,801)	(37,935)	(52,759)	(74,819)
Dividends on series A convertible preferred stock	(790)	(790)	(790)	(790)	(790)
Net loss attributable to common stockholders	$ (31,108)	$ (31,591)	$ (38,725)	$ (53,549)	$ (75,609)
Net loss attributable to common stockholders per common share, basic and diluted	$ (0.39)	$ (0.50)	$ (0.83)	$ (1.17)	$ (1.66)
Weighted average number of shares outstanding, basic and diluted	79,017	63,249	46,512	45,809	45,577

	December 31,				
	2009	2008	2007	2006	2005
			(In thousands)		
			(As adjusted)		
Consolidated Balance Sheet Data:					
Cash, cash equivalents, and short-term investments	$ 30,065	$ 34,463	$ 18,679	$ 40,095	$ 61,748
Total current assets	31,533	35,486	20,782	42,298	66,962
Total assets	45,874	56,822	44,351	72,726	103,889
Total current liabilities	5,355	6,997	8,383	9,078	19,145
Long-term debt, less current portion	49,494	64,126	71,524	68,276	43,425
Stockholders (deficit) equity	(16,975)	(20,330)	(41,370)	(10,563)	38,256

(1) Given our history of incurring operating losses, no income tax benefit has been recognized in our consolidated statements of operations because of the loss before income taxes, and the need to recognize a valuation allowance on the portion of our deferred tax assets which will not be offset by the reversal of deferred tax liabilities.

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Item 7. ***Management s Discussion and Analysis of Financial Condition and Results of Operations***

OVERVIEW

We are currently researching and/or developing technologies and product candidates to treat cancers and infectious diseases. Since our inception in March 1994, our activities have primarily been associated with the development of our heat shock protein technology and our product, Oncophage® (vitespen), a patient-specific therapeutic cancer vaccine registered for use in Russia for the treatment of kidney cancer patients at intermediate risk for disease recurrence. As resources allow, we explore potential opportunities to seek product approval in other jurisdictions. Oncophage has been tested in Phase 3 clinical trials for the treatment of renal cell carcinoma, the most common type of kidney cancer, and for the treatment of metastatic melanoma, and it has also been tested in Phase 1 and Phase 2 clinical trials in a range of indications and is currently in Phase 2 clinical trials in glioma, a type of brain cancer. Our business activities have included product research and development, intellectual property prosecution, manufacturing, regulatory and clinical affairs, corporate finance and development activities, market development, and support of our collaborations.

We have incurred significant losses since our inception. As of December 31, 2009, we had an accumulated deficit of $562.5 million. Since our inception, we have financed our operations primarily through the sale of equity and convertible notes, interest income earned on cash, cash equivalents, and short-term investment balances, and debt provided through secured lines of credit. We believe that, based on our current plans and activities, our working capital resources at December 31, 2009, anticipated revenues, and the estimated proceeds from our license, supply, and collaborative agreements will be sufficient to satisfy our liquidity requirements into mid-2011. We expect to attempt to raise additional funds in advance of depleting our current funds. We may attempt to raise additional funds by: (1) licensing technologies or products to one or more collaborative partners, (2) renegotiating license and/or supply agreements with current licensees or collaborative partners, (3) completing an outright sale of selected assets, (4) securing additional debt financing, and/or (5) selling additional equity securities. Satisfying long-term liquidity needs may require the successful commercialization of (1) our product, Oncophage and/or one or more partnering arrangements for Oncophage, (2) vaccines containing QS-21 under development by our licensees, and/or (3) potentially other product candidates, each of which will require additional capital.

On July 30, 2009, we entered into a private placement agreement under which we issued and sold (i) 5,000,000 shares of our common stock, (ii) six-month warrants to purchase up to 2,500,000 additional shares of common stock at an exercise price of $2.00 per share, and (iii) four-year warrants to purchase up to 2,173,900 additional shares of common stock at an exercise price of $2.30 per share, for $2.00 for each share sold generating gross proceeds of $10.0 million.

On August 3, 2009, we entered into another private placement agreement under which we issued and sold (i) 4,385,965 shares of our common stock, (ii) six-month warrants to purchase up to 2,192,982 additional shares of common stock at an exercise price of $2.31 per share, and (iii) four-year warrants to purchase up to 1,973,685 additional shares of common stock at an exercise price of $2.50 per share, for $2.28 for each share sold generating gross proceeds of $10.0 million. The warrants are not exercisable for the first six months following the closing, which occurred on August 4, 2009.

In April 2008, the Russian Ministry of Public Health issued a registration certificate for the use of Oncophage for the treatment of kidney cancer patients at intermediate risk for disease recurrence and, in September 2008, the FDA granted the necessary permission to allow for the export of Oncophage from the United States for patient administration in Russia. The Russian registration was our first product approval from a regulatory authority, and the first approval of a patient-specific therapeutic cancer vaccine in a major market.

In October 2008, we announced the submission of a marketing authorization application (MAA) to the European Medicines Agency (EMEA) requesting conditional authorization of Oncophage in earlier-stage,

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localized kidney cancer. Conditional authorization, a relatively new provision, is reserved for products intended to treat serious and life-threatening diseases where a high unmet medical need currently exists. On October 20, 2009, the Committee for Medicinal Products for Human Use (CHMP) of the EMEA informed us at an oral hearing to anticipate a negative opinion on this MAA. After its review, the CHMP adopted a negative opinion and subsequently we withdrew our MAA. We are currently evaluating our options to determine whether and how to proceed with Oncophage in renal cell carcinoma.

In addition, we are exploring the steps necessary to seek approval of Oncophage in other markets directly through one or more partnering arrangements. This exploration process includes formal and informal discussions with international regulatory authorities, key opinion leaders, and consultants with country-specific regulatory experience regarding potential applications for full or conditional marketing approval, and/or named patient programs.

Guidance received from past interaction with the FDA indicated that further clinical studies must be conducted to demonstrate the efficacy and safety of Oncophage. At the appropriate time, we intend to seek a meeting with the FDA to discuss the results of the updated analyses from our Phase 3 renal cell carcinoma trial utilizing data through March 2007 to determine whether there is an opportunity to file a BLA on the basis of these results with appropriate commitments to conduct further post approval trials. Because the primary evidence of efficacy comes from a subgroup analysis of the pre-specified primary and secondary endpoints and was not demonstrated in the intent-to-treat population, this trial is likely not sufficient as sole support for product approval based on existing standards in the United States and potentially in other territories.

Our common stock is currently listed on The NASDAQ Capital Market under the symbol AGEN.

On December 30, 2009, we were notified by the Listing Qualifications Staff of NASDAQ (the Staff) indicating that we are not in compliance with Nasdaq Marketplace Rule 5550(a)(2) (the Bid Price Requirement) because the bid price for our common stock had closed below the minimum $1.00 per share requirement for 30 consecutive business days. In accordance with Nasdaq Marketplace Rule 5810(c)(3)(A), we have been provided 180 calendar days, or until June 28, 2010, to regain compliance with the Bid Price Requirement. After the initial 180 calendar day period, we may be eligible for an additional 180 day compliance period to regain compliance with the Bid Price Requirement, assuming we continue to meet The NASDAQ Capital Market initial listing criteria set forth in Nasdaq Marketplace Rule 5505, excluding the Bid Price Requirement. To regain compliance with the minimum bid price continued listing requirement, the bid price of our common stock must close at $1.00 per share or more for a minimum of ten consecutive business days. The Staff may, in its discretion, require our common stock to maintain a bid price of at least $1.00 per share for a period in excess of ten consecutive business days before determining that we have demonstrated an ability to maintain long-term compliance.

Historical Results of Operations

Year Ended December 31, 2009 Compared to the Year Ended December 31, 2008

Revenue: We generated revenue of $3.3 million and $2.7 million during the years ended December 31, 2009 and 2008, respectively. Revenue includes revenue earned on shipments of QS-21 to our QS-21 licensees, license fees, and royalties earned. In the years ended December 31, 2009 and 2008, we recorded $1.5 million each period from the amortization of deferred revenue related to our QS-21 partnered programs.

Research and Development: Research and development expenses include the costs associated with our internal research and development activities, including compensation and benefits, occupancy costs, clinical manufacturing costs, costs of consultants, and administrative costs. Research and development expense decreased 18% to $16.9 million for the year ended December 31, 2009 from $20.7 million for the year ended December 31, 2008. The decrease included declines of $1.5 million for personnel related expenses and $241,000 for facility related costs primarily due to cost containment efforts, and $1.5 million for various outside services primarily related to the status of our Oncophage efforts in Russia and other territories.

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General and Administrative: General and administrative expenses consist primarily of personnel costs, facility expenses, and professional fees. General and administrative expenses decreased 29% to $14.1 million for the year ended December 31, 2009 from $19.8 million for the year ended December 31, 2008. This decrease is largely attributable to declines of $2.3 million for various outside services primarily relating to the status of our Oncophage efforts in Russia and other territories, $1.5 million in personnel related expenses due to cost containment efforts, $1.0 million in employee and director noncash share-based compensation expense and a $332,000 decrease in our foreign currency exchange loss.

Non-operating Income: Non-operating income of $2.6 million for the year ended December 31, 2009 consists primarily of a gain on the extinguishment of a portion of our 2005 Notes.

Interest Expense: Interest expense decreased to $5.3 million for the year ended December 31, 2009 from $6.3 million for the year ended December 31, 2008. This decrease is related to the repurchase of a portion of our 2005 Notes during the fourth quarter of 2008 and the second quarter of 2009. Interest on our 2006 Notes is payable semi-annually on December 30 and June 30 in cash or, at our option, in additional notes or a combination thereof. During the years ended December 31, 2009 and 2008, interest expense included $2.4 million and $2.2 million, respectively, paid in the form of additional 2006 Notes.

Interest Income: Interest income decreased 86% to $137,000 for the year ended December 31, 2009 from $966,000 for the year ended December 31, 2008. This decrease is primarily attributable to a decrease in our average cash, cash equivalents and short-term investments balance coupled with declining interest rates earned on our cash, cash equivalents, and short-term investments. Our average interest rate earned decreased from 2.4% for the year ended December 31, 2008 to 0.49% for the year ended December 31, 2009.

Year Ended December 31, 2008 Compared to the Year Ended December 31, 2007

Revenue: We generated revenue of $2.7 million and $5.6 million during the years ended December 31, 2008 and 2007, respectively. Revenue includes revenue earned on shipments of QS-21 to our QS-21 licensees, license fees, and royalties earned, and in 2007, $2.0 million of revenue related to a milestone payment received from GlaxoSmithKline Biologicals SA (GSK) for the transfer of manufacturing technologies to GSK and $1.0 million related to a milestone payment received from Elan Pharmaceuticals International Limited, (Elan) which initiated a Phase 2 study of their Alzheimer s disease product candidate that contains QS-21. In the years ended December 31, 2008 and 2007, we recorded $1.5 million and $877,000, respectively, from the amortization of deferred revenue from our QS-21 partnered programs.

Research and Development: Research and development expenses include the costs associated with our internal research and development activities, including compensation and benefits, occupancy costs, clinical manufacturing costs, administrative costs, and services provided by clinical research organizations. Research and development expense decreased 5% to $20.7 million for the year ended December 31, 2008 from $21.8 million for the year ended December 31, 2007. The decrease included declines of $2.3 million in our clinical trial-related expenses and $330,000 for personnel related expenses, partially offset by a $1.5 million net increase in other expenses primarily relating to our efforts in Russia and other territories, which includes the fair market value of shares issued to non-employees for services rendered.

General and Administrative: General and administrative expenses consist primarily of personnel costs, facility expenses, and professional fees. General and administrative expenses increased 16% to $19.8 million for the year ended December 31, 2008 from $17.0 million for the year ended December 31, 2007. This increase is largely related to increases of $2.3 million in professional fees, primarily relating to our efforts in Russia and other territories, which includes the fair market value of shares issued to non-employees for services rendered, and of $1.1 million in employee and director noncash share-based compensation expense, partially offset by a $578,000 net decrease in other expenses.

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Non-operating Income: Non-operating income of $12.4 million for the year ended December 31, 2008 included a $7.7 million gain on the repurchase of $11.8 million principal amount of our 2005 Notes for $2.9 million in November 2008 and income of $4.6 million from the assignment of certain patent applications. The patent applications assigned did not relate to any products currently under development.

Interest Expense: Interest expense increased to $6.3 million for the year ended December 31, 2008 from $6.1 million for the year ended December 31, 2007 primarily related to the interest on our 2006 Notes payable semi-annually on December 30 and June 30 in cash or, at our option, in additional notes or a combination thereof. During the years ended December 31, 2008 and 2007, interest expense included $2.2 million and $2.1 million, respectively, paid in the form of additional 2006 Notes.

Interest Income: Interest income decreased 34% to $966,000 for the year ended December 31, 2008 from $1.5 million for the year ended December 31, 2007. This decrease is primarily attributable to a decrease in interest rates earned on our cash, cash equivalents, and short-term investments. Our average interest rate earned decreased from 5.3% for the year ended December 31, 2007 to 2.4% for the year ended December 31, 2008.

Research and Development Programs

Prior to 2002, we did not track costs on a per project basis, and therefore have estimated the allocation of our total research and development costs to our largest research and development programs for that time period. During 2009, these research and development programs consisted largely of Oncophage and QS-21, as indicated in the following table (in thousands).

Research and Development Program	Product	Year Ended December 31, 2009	2008	2007	Prior to 2007	Total
Heat shock proteins for cancer	Oncophage	$ 15,309	$ 17,156	$ 13,970	$ 224,456	$ 270,891
Heat shock proteins for infectious diseases	AG-702/707	262	1,377	2,005	14,066	17,710
Liposomal cancer treatments *	Aroplatin	196	865	3,005	11,567	15,633
Vaccine adjuvant **	QS-21	1,071	648	2,064	7,436	11,219
Other research and development programs		65	617	745	16,378	17,805
Total research and development expenses		$ 16,903	$ 20,663	$ 21,789	$ 273,903	$ 333,258

* Prior to 2001, costs were incurred by Aronex Pharmaceuticals, Inc., a company we acquired in July 2001.

** Prior to 2000, costs were incurred by Aquila Biopharmaceuticals, Inc., a company we acquired in November 2000.

Research and development program costs include compensation and other direct costs plus an allocation of indirect costs, based on certain assumptions and our review of the status of each program. Our product, Oncophage, and our product candidates are in various stages of development as described below. Significant additional expenditures will be required if we start new trials, encounter delays in our programs, apply for regulatory approvals, continue development of our technologies, expand our operations, and/or bring Oncophage and our product candidates to market. The eventual total cost of each clinical trial is dependent on a number of factors such as trial design, length of the trial, number of clinical sites, and number of patients. The process of obtaining and maintaining regulatory approvals for new therapeutic products is lengthy, expensive, and uncertain. Because the further development of Oncophage is subject to further evaluation and uncertainty, and because AG-707 and Aroplatin are early-stage clinical development candidates and generally on hold due to cost-containment efforts, we are unable to reliably estimate the cost of completing our research and development programs, the timing of bringing such programs to various markets, and, therefore, when, if ever, material cash inflows are likely to commence. Programs involving QS-21 depend on our collaborative partners or licensees successfully completing clinical trials, successfully manufacturing QS-21 to meet demand, obtaining regulatory approvals and successfully commercializing product candidates containing QS-21.

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Product Development Portfolio

Oncophage

We started enrolling patients in our first clinical trial studying Oncophage at Memorial Sloan-Kettering Cancer Center in New York, New York in November 1997. To date, we have treated nearly 800 cancer patients with Oncophage in our clinical trials. Because Oncophage is a novel therapeutic cancer vaccine that is patient-specific, meaning it is derived from the patient s own tumor, it is experiencing a long regulatory review process and high development costs, either of which could delay or prevent our commercialization efforts. For additional information regarding regulatory risks and uncertainties, please read the risks identified under Part I-Item 1A. Risk Factors of this Annual Report on Form 10-K.

We believe that the collective results from our clinical trials thus far show that Oncophage has a favorable safety profile. We also believe that available results from clinical trials suggest that treatment with Oncophage can generate immunological and anti-tumor responses.

An investigator-sponsored Phase 1/2 clinical trial in recurrent, high-grade glioma is currently ongoing. This study is being lead by the Brain Tumor Research Center at the University of California, San Francisco (UCSF), with grants from the American Brain Tumor Association and the National Cancer Institute Special Programs of Research Excellence. Phase 1 results, presented at the Society for Neuro-Oncology Annual Meeting Conference in November 2008, showed that Oncophage vaccination following brain cancer surgery increased overall median survival to approximately 10.5 months, with four patients surviving beyond 12 months and one patient surviving almost 2.5 years. The study also showed that all 12 treated patients demonstrated a significant immune response after vaccination with Oncophage ($P < 0.001$) and that patients with minimal residual disease at time of first vaccination (n = 7) were more likely to survive beyond nine months compared with patients with significant residual disease. The study has progressed to Phase 2, which is designed to enroll 60 patients, and has expanded to include New York-Presbyterian Hospital/Columbia University Medical Center. Interim data from the Phase 2 portion was presented at the Society for Neuro-Oncology meeting in October 2009 which showed a median survival of 10.1 months in the first 20 patients treated with Oncophage, and that to date six patients (30 percent) had survived at or beyond 12 months. This early data shows an improvement in overall survival over the previous long-established historical median survival of 6.5 months, and is also slightly favorable to the recently reported median survival of 9.2 months with Avastin® (bevacizumab) in patients with recurrent high-grade glioma. UCSF also recently initiated an additional Phase 2 clinical trial in newly diagnosed glioma testing Oncophage in combination with Temodar® (temozolomide).

On March 24, 2006, we announced top-line results from part I of our Phase 3 study of Oncophage in renal cell carcinoma patients who are at high risk of recurrence after surgery, and disclosed that the trial did not meet its primary endpoint. We subsequently announced the termination of part II of the trial.

The Eastern Cooperative Oncology Group is currently sponsoring a large adjuvant renal cell carcinoma trial that stratifies patients by certain prognostic risk factors for recurrence, and puts patients into intermediate risk, high risk, and very high risk categories. We are able to apply these definitions to the data generated as part of our Phase 3 trial of Oncophage in renal cell carcinoma and it is in the intermediate risk, or better-prognosis population, where significant improvement in favor of the Oncophage arm was demonstrated.

We opened a subsequent protocol that continued to follow patients in the format of a registry in order to collect overall survival information, as well as investigator reports of disease recurrence. The registry, which is expected to provide additional data on the effectiveness of Oncophage, followed patients until March 2010, an additional three years from closure of the initial trial, providing more than five years of data collection following the enrollment of the last patient in the trial. At the 2009 American Society of Clinical Oncology annual meeting, we announced results of an interim analysis from the ongoing global patient survival registry, which showed that patients with kidney cancer at intermediate risk of disease recurrence demonstrated an approximately 46 percent lower risk of death when treated with Oncophage cancer vaccine after surgery compared with no treatment (n = 362; $P < 0.05$; hazard ratio = 0.54).

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In addition to the patient registry, we are in the early initiation stage of a small study in non-metastatic renal cell carcinoma to assess immune response in the intermediate-risk patient population. The results of this continued data collection through the survival registry and ongoing analyses are uncertain, and may not positively affect the acceptability of the overall results of the trial and, even if clinically meaningful, may not meet the requirements of the FDA or other regulatory authorities for submission and approval of a marketing application or similar applications for product approval outside the United States.

In April 2008, the Russian Ministry of Public Health issued a registration certificate for the use of Oncophage for the treatment of kidney cancer patients at intermediate risk for disease recurrence and, in September 2008, the FDA granted the necessary permission to allow for the export of Oncophage from the United States for patient administration in Russia. The Russian registration was our first product approval from a regulatory authority, and the first approval of a patient-specific therapeutic cancer vaccine in a major market. Since approval we have been focusing our efforts in Russia on pre-commercial launch activities.

Our distributor has obtained an import/export license from the Russian Ministry of Industry and Trade, but prior to commercial launch we, our distributor, or other service providers, must also complete a number of other post-approval activities. Since Oncophage can only be manufactured from a patient s own tumor, patients will need to be diagnosed, and their tumors will need to be removed and sent to our manufacturing facility for vaccine to be prepared, released, and then returned to the site for patient administration. Complexities unique to the logistics of commercial products may delay shipments and limit our ability to move commercial product in an efficient manner without incident. In addition, if we are unable to establish and execute on successful local distribution arrangements including favorable pricing and payment terms, and/or implement appropriate logistical processes for distribution of Oncophage, our commercialization efforts will be adversely affected.

Even if we successfully meet the logistical and regulatory requirements for Russian launch, the amount of revenue generated, if any, from the sale of Oncophage in Russia will depend on, among other things, identifying sources of reimbursement and obtaining adequate reimbursement, including from national or regional funds, and physician and patient assessments of the benefits and cost-effectiveness of Oncophage. If we are unsuccessful in obtaining substantial reimbursement for Oncophage from national or regional funds, we will have to rely on private-pay for the foreseeable future, which may delay or prevent our launch efforts because the ability and willingness of patients to pay is unclear. Many patients will not be capable of paying for Oncophage by themselves. In addition, cost-containment measures by third parties may prevent us from becoming profitable. Because, among other things, we have limited resources and minimal sales and marketing experience, commercial launch of Oncophage has been slow. Furthermore, we may experience significant delays in the receipt of payment for Oncophage, or an inability to collect payments at all.

In October 2008, we announced the submission of a MAA to the EMEA requesting conditional authorization of Oncophage in earlier-stage, localized kidney cancer. On October 20, 2009 the CHMP of the EMEA verbally informed us at an oral hearing to anticipate a negative opinion on this MAA. After its review, the CHMP adopted a negative opinion and subsequently we withdrew our MAA. We do not know what impact, if any, this opinion will have on our Russian activities. We are currently evaluating our options to determine whether and how to proceed with Oncophage in renal cell carcinoma.

In addition, we are exploring the steps necessary to potentially make Oncophage available in other markets outside the United States directly or through one or more partnering arrangements. This exploration process includes formal and informal discussions with international regulatory authorities, key opinion leaders, consultants and potential partners with country-specific regulatory experience regarding potential applications for full or conditional marketing approvals, and/or named patient programs. There is no guarantee that we will succeed in making Oncophage available in these markets.

QS-21

QS-21 is an adjuvant, or a substance added to a vaccine and other immunotherapeutic, that is intended to enhance the body s immune response to the antigen contained within the treatment. QS-21 is best known for its

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ability to stimulate antibody, or humoral, immune response, and has also been shown to activate cellular immunity. A natural product, QS-21 is a triterpene glycoside, or saponin, a natural compound purified from the bark of a South American tree called Quillaja saponaria. It is sufficiently characterized with a known molecular structure, thus distinguishing it from other adjuvant candidates, which are typically emulsions, polymers, or biologicals.

QS-21 has been tested in approximately 185 clinical trials involving, in the aggregate, over 12,000 subjects in a variety of cancer indications, infectious diseases, and other disorders. These studies have been carried out by academic institutions and pharmaceutical companies located in the United States and internationally. A number of these studies have shown QS-21 to be significantly more effective in stimulating antibody responses than aluminum hydroxide or aluminum phosphate, the adjuvants most commonly used in approved vaccines in the United States today.

A number of pharmaceutical and biotechnology companies have licensed QS-21 from us for use in vaccines to treat a variety of human diseases. Companies with QS-21 programs include GSK and JANSSEN Alzheimer s Immunotherapy, a subsidiary of Johnson & Johnson. In return for rights to use QS-21, these companies have generally agreed to pay us license fees, manufacturing payments, milestone payments, and royalties on product sales for a minimum of 10 years after commercial launch, independent of patent life. In addition to our corporate licensing arrangements, we have developed a number of academic collaborations to test new vaccine concepts and products containing QS-21. There are approximately 15 vaccines currently in clinical development that contain QS-21.

On January 16, 2009, we entered into an Amended and Restated Manufacturing Technology Transfer and Supply Agreement, under which GSK has the right to manufacture all of its requirements of commercial grade QS-21. GSK is obligated to supply us (or our affiliates, licensees, or customers) certain quantities of commercial grade QS-21 for a stated period of time. We understand that QS-21 is a key component included in several of GSK s proprietary adjuvant systems and that a number of GSK s vaccine candidates currently under development are formulated using adjuvant systems containing QS-21. GSK has initiated Phase 3 studies evaluating its investigational MAGE-A3 Antigen-Specific Cancer Immunotherapeutic containing QS-21 in non-small cell lung cancer and melanoma. GSK has also initiated a Phase 3 clinical trial in malaria.

Elan had a commercial license for the use of QS-21in the research and commercialization of products. Effective September 14, 2009, we entered into an Amended and Restated License Agreement (Amended License Agreement) with Elan. On September 17, 2009, the Amended License Agreement was assigned to JANSSEN Alzheimer Immunotherapy. Under the terms of the Amended License Agreement assigned to JANSSEN Alzheimer Immunotherapy, they will have the right to develop, make, have made, use, sell, offer for sale, import, and have sold, the Alzheimer s disease vaccine that contains QS-21 (Licensed Product). In addition, pursuant to the terms of the Amended License Agreement, JANSSEN Alzheimer Immunotherapy has the right to manufacture all of its requirements of QS-21 for use in the Licensed Product and we have no further supply obligations. Under the terms of the Amended License Agreement, we are entitled to receive future milestone payments and product royalties in the event of the successful development of the Licensed Product. In 2007, Elan initiated a Phase 2 study of their vaccine.

Liquidity and Capital Resources

We have incurred annual operating losses since inception, and we had an accumulated deficit of $562.5 million as of December 31, 2009. We expect to incur significant losses over the next several years as we continue our clinical trials, apply for regulatory approvals, prepare for commercialization, and continue development of our technologies. Since our inception, we have financed our operations primarily through the sale of equity and convertible notes, interest income earned on cash, cash equivalents, and short-term investment balances, and debt provided through secured lines of credit. From our inception through December 31, 2009, we have raised aggregate net proceeds of $494.8 million through the sale of common and preferred stock, the exercise of stock

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options and warrants, proceeds from our employee stock purchase plan, and the issuance of convertible notes, and borrowed $20.5 million under two credit facilities. As of December 31, 2009, we had debt outstanding of $52.2 million in principal, including $32.1 million in principal of our 2006 Notes and $20.0 million in principal of our 2005 Notes, but subject to redemption at the option of the holders or us beginning February 1, 2012.

Based on our current plans and activities, we anticipate that our net cash burn (defined as cash used in operating activities plus capital expenditures and dividend payments) will be in the $16 $18 million range for the year ending December 31, 2010. We continue to support and develop our QS-21 partnering collaborations, with the goal of generating royalties from this product in 2011 or thereafter.

We believe that, based on our current plans and activities, our working capital resources at December 31, 2009, anticipated revenues, and the estimated proceeds from our license, supply, and collaborative agreements will be sufficient to satisfy our liquidity requirements into mid-2011. We closely monitor our cash needs. We continue to monitor the likelihood of success of our key initiatives and are prepared to discontinue funding of such activities if they do not prove to be commercially feasible. In addition, we will continue to adjust other spending as needed in order to preserve liquidity. We expect to attempt to raise additional funds in advance of depleting our current funds. In order to fund our operations through 2011 and beyond, we will need to contain costs and raise additional funds. We may attempt to raise additional funds by: (1) licensing technologies or products to one or more collaborative partners, (2) renegotiating license and/or supply agreements with current collaborative partners, (3) completing an outright sale of selected assets, (4) securing additional debt financing, and/or (5) selling additional equity securities. Our ability to successfully enter into any such arrangements is uncertain, and if funds are not available, or not available on terms acceptable to us, we may be required to revise our planned clinical trials, other development activities, capital expenditures, and/or the scale of our operations. As noted above, we expect to attempt to raise additional funds in advance of depleting our current funds; however, we may not be able to raise funds or raise amounts sufficient to meet the long-term needs of the business. Satisfying long-term liquidity needs may require the successful commercialization of Oncophage and/or one or more partnering arrangements for Oncophage, successful commercialization of vaccines containing QS-21 under development by our licensees, and potentially successful commercialization of other product candidates, each of which will require additional capital, as discussed above. Please see the Forward-Looking Statements section and the risks highlighted under Part I-Item 1A. Risk Factors of this Annual Report on Form 10-K.

Our future cash requirements include, but are not limited to, efforts to commercialize Oncophage in Russia and other jurisdictions we are currently exploring, as well as supporting our clinical trial and regulatory efforts and continuing our other research and development programs. Since inception, we have entered into various agreements with institutions and clinical research organizations to conduct and monitor our clinical studies. Under these agreements, subject to the enrollment of patients and performance by the applicable institution of certain services, we have estimated our payments to be $47.2 million over the term of the studies. Through December 31, 2009, we have expensed $46.1 million as research and development expenses and $46.0 million has been paid related to these clinical studies. The timing of expense recognition and future payments related to these agreements is subject to the enrollment of patients and performance by the applicable institution of certain services.

We have also entered into sponsored research agreements related to our product candidates that required payments of $6.5 million, all of which has been paid as of December 31, 2009. We plan to enter into additional agreements, and we anticipate significant additional expenditures will be required to advance our clinical trials, apply for regulatory approvals, continue development of our technologies, and bring our product, Oncophage, and our product candidates to market. Part of our strategy is to develop and commercialize some of our product candidates by continuing our existing collaborative arrangements with academic and collaborative partners and licensees and by entering into new collaborations. As a result of our collaborative agreements, we will not completely control the efforts to attempt to bring those product candidates to market. We have various agreements, for example, with collaborative partners and/or licensees, which allow the use of our QS-21 adjuvant

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in numerous vaccines. These agreements grant exclusive worldwide rights in some fields of use and co-exclusive or non-exclusive rights in others. These agreements generally provide us with rights to manufacture and supply QS-21 to the collaborative partner or licensee and also call for royalties to be paid to us on future sales of licensed vaccines that include QS-21, which may or may not be achieved. Significant investment in manufacturing capacity could be required if we were to retain our manufacturing and supply rights.

Our cash, cash equivalents, and short-term investments at December 31, 2009 were $30.1 million, a decrease of $4.4 million from December 31, 2008.

During the year ended December 31, 2009, we raised net proceeds of $18.6 million from private placements. As part of our private placement agreements entered into in 2008 and 2009, we agreed to register the shares of common stock issued in the equity sales, and the shares of common stock underlying certain warrants issued to the investors, with the SEC within contractually specified time periods. We have filed registration statements covering all required shares. We also agreed to use our best efforts to keep the registration statements continuously effective. If we are unable to keep the registration statements continuously effective in accordance with the terms of the private placement agreements, we are subject to liquidated damages of up to a maximum of 10% of the aggregate purchase price paid by the investors, or up to $3.8 million.

During the year ended December 31, 2009, we repurchased $1.0 million of our 2005 Notes for $255,000. In addition, during 2009 we received $2.3 million as payment on a receivable from the 2008 assignment of certain patent applications.

Net cash used in operating activities for the years ended December 31, 2009 and 2008 was $24.2 million and $28.9 million, respectively. We continue to support and develop our QS-21 partnering collaborations, with the goal of generating royalties from this product in 2011 or thereafter. Our future ability to generate cash from operations will depend on achieving regulatory approval of our product candidates, and market acceptance of Oncophage and our product candidates, achieving benchmarks as defined in existing collaborative agreements, and our ability to enter into new collaborations. Please see the Forward-Looking Statements section and the risks highlighted under Part I-Item 1A. Risk Factors of this Annual Report on Form 10-K.

The table below summarizes our contractual obligations as of December 31, 2009 (in thousands).

		Payments Due by Period			
	Total	Less than 1 Year	1 3 Years	3 5 Years	More than 5 Years
Long-term debt (1)	$ 59,348	$ 1,251	$ 58,097	$	$
Operating leases	8,686	2,915	4,365	1,406	
Total	$ 68,034	$ 4,166	$ 62,462	$ 1,406	$

(1) Assumes the 2006 Notes are not converted and are paid in 2011. In certain circumstances, the 2006 Notes could be called or converted before then. Also includes fixed interest payments, some of which may be paid in kind, and assumes that the 2005 Notes are not converted and are paid on February 1, 2012. In certain circumstances, the 2005 Notes could be converted before then. In addition, the holders of the 2005 Notes can require us to purchase debt from them at certain dates between 2012 and 2020. If the 2005 Notes are not converted and we are not required to purchase the debt, the 2005 Notes mature on February 1, 2025. If the 2005 Notes were outstanding until maturity, there would be additional interest payments of $13.6 million for the period 2012 through 2025.

Effective July 19, 2002, we sublet part of our Framingham facility to GTC Biotherapeutics, Inc. and we have leased related leasehold improvements and equipment under agreements that were to expire on December 31, 2006. GTC exercised its option to extend this lease until September 2010. Under the terms of our original lease, we are obligated to pay our landlord approximately 7% of our rental income. Effective March 17, 2004, we sublet an

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additional part of our Framingham facility to PP Manufacturing, whose lease also expires in September 2010. We are contractually entitled to receive base rental payments of approximately $885,000 in 2010. The collection of this rental income, however, is subject to uncertainty.

We are currently involved in certain legal proceedings as detailed in Item 3 above and Note 16 of the notes to our consolidated financial statements. While we currently believe that the ultimate outcome of any of these proceedings will not have a material adverse effect on our financial position, results of operations, or liquidity, litigation is subject to inherent uncertainty. Furthermore, litigation consumes both cash and management attention.

Inflation

We believe that inflation has not had a material adverse effect on our business, results of operations, or financial condition to date.

Related Parties

In March 1995, we entered into a consulting agreement with Dr. Pramod Srivastava, our scientific founder and a former member of our Board of Directors, and upon its expiration in March 2006, we entered into a new consulting agreement, effective March 28, 2006, with Dr. Srivastava. The agreement has an initial term ending March 31, 2011. In exchange for the timely performance of services, as defined in the agreement, Dr. Srivastava is entitled to receive compensation to be established by the Compensation Committee of the Antigenics Board of Directors. For the twelve-month period ending March 31, 2010, Dr. Srivastava will receive $50,000. Dr. Srivastava is also eligible to receive an annual bonus and stock options at the discretion of the Compensation Committee of our Board of Directors. During the year ended December 31, 2009, we paid Dr. Srivastava an additional $50,000 for his work related to our MAA submitted to the EMEA.

In February 1998, we entered into a research agreement with the University of Connecticut Health Center to fund research in Dr. Srivastava s laboratory at UConn. Dr. Srivastava is a member of the faculty of the University of Connecticut School of Medicine. Effective December 31, 2006, this agreement was terminated, and a termination fee of $250,000 was paid to UConn in January 2007. The termination of this agreement did not affect our existing license rights under our license agreement with UConn.

On January 9, 2008, we entered into a private placement agreement (the January 2008 private placement) that included (i) 8,708,717 shares of common stock, (ii) warrants to acquire up to 8,708,717 shares of common stock at $3.00 per share, and (iii) unit warrants, which, if exercisable due to a triggering event as that term is defined in the applicable warrant, permit a holder to acquire up to 8,708,717 shares of common stock at $3.00 per share and warrants to acquire up to an additional 8,708,717 shares of common stock at $3.00 per share. In conjunction with this private placement, we sold 542,050 shares of common stock to Garo H. Armen, Ph.D., our Chairman and Chief Executive Officer, and 1,166,667 shares of common stock to Armen Partners LP. Garo H. Armen is the general partner of Armen Partners LP and owns a controlling interest therein. In addition to the common stock acquired by Garo H. Armen and Armen Partners LP, each acquired an equal number of both warrants and unit warrants. The unit warrants expired January 9, 2010.

Critical Accounting Policies and Estimates

The SEC defines critical accounting policies as those that require the application of management s most difficult, subjective, or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain and may change in subsequent periods.

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities

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and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. We base those estimates on historical experience and on various assumptions that are believed to be reasonable under the circumstances. Actual results could differ from those estimates.

The following listing is not intended to be a comprehensive list of all of our accounting policies. Our significant accounting policies are described in Note 2 of the notes to our consolidated financial statements. In many cases, the accounting treatment of a particular transaction is dictated by U.S. generally accepted accounting principles, with no need for our judgment in its application. There are also areas in which our judgment in selecting an available alternative would not produce a materially different result. We have identified the following as our critical accounting policies.

Revenue Recognition

Revenue for services under research and development contracts are recognized as the services are performed, or as clinical trial materials are provided. Non-refundable milestone payments that represent the completion of a separate earnings process are recognized as revenue when earned. License fees and royalties are recognized as they are earned. Revenue recognized from collaborative agreements is based upon the provisions of Accounting Standards Codification (ASC) 605-25, *Revenue Recognition Multiple Element Arrangements*.

Share-Based Compensation

In accordance with the fair value recognition provisions of ASC 718, *Compensation Stock Compensation,* we recognize share-based compensation expense net of an estimated forfeiture rate and only recognize compensation expense for those share-based awards expected to vest. Compensation expense is recognized on a straight-line basis over the requisite service period of the award.

Stock options granted to certain non-employees have been accounted for based on the fair value method of accounting in accordance with ASC 505-50, *Equity Equity-Based Payments to Non-Employees.* As a result, the noncash charge to operations for non-employee options with vesting or other performance criteria is affected each reporting period, until the non-employee options vest, by changes in the fair value of our common stock. Effective January 1, 2006, under the provisions of ASC 505-50, the change in fair value of vested options issued to non-employees is reflected in the statement of operations each reporting period, until the options are exercised or expire.

Determining the appropriate fair value model and calculating the fair value of share-based awards requires the use of highly subjective assumptions, including the expected life of the share-based awards and stock price volatility. The assumptions used in calculating the fair value of share-based awards represent management s best estimates, but these estimates involve inherent uncertainties and the application of management judgment. As a result, if factors change and we use different assumptions, our share-based compensation expense could be materially different in the future. In addition, if our actual forfeiture rate is materially different from our estimate, the share-based compensation expense could be significantly different from what we have recorded in the current period. See Note 10 of the notes to our consolidated financial statements for a further discussion on share-based compensation.

Fair Value Accounting Derivative Liability

As a result of the adoption of certain guidance within ASC 815-40, *Derivatives and Hedging Contracts In Entity s Own Equity* as of January 1, 2009, the conversion feature embedded in our 2006 Notes is treated as a derivative and recorded at its fair value, with period to period changes in the fair value recorded as a gain or loss in our consolidated statement of operations.

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We measure fair value based on a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company s assumptions about the inputs that market participants would use in pricing the asset or liability and are developed based on the best information available in the circumstances. Our derivative liability is valued based on significant unobservable inputs.

Recent Accounting Pronouncements

In June 2009, the Financial Accounting Standards Board (FASB) issued the ASC as the single source of authoritative U.S. generally accepted accounting principles (GAAP) recognized by the FASB to be applied by nongovernmental entities in preparation of financial statements in conformity with U.S. GAAP. While the adoption of the ASC as of September 30, 2009 changed how we reference accounting standards, the adoption did not have an impact on our financial position, results of operations, or cash flows.

In March 2008, the FASB issued authoritative guidance, which is effective for fiscal years, and interim periods within those fiscal years, beginning on or after November 15, 2008, that is intended to improve financial reporting about derivative instruments and hedging activities by requiring enhanced disclosures to enable investors to better understand the effects of these activities on an entity s financial position, financial performance, and cash flows. The adoption of this authoritative guidance did not have an impact on our financial position or results of operations but required additional disclosure (see Note 15 to our consolidated financial statements).

In May 2008, the FASB issued revised guidance, which is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2008, that specifies that issuers of convertible debt instruments that may be settled in cash upon conversion should separately account for the liability and equity components in a manner that will reflect the entity s nonconvertible debt borrowing rate when interest cost is recognized in subsequent periods. We adopted this revised guidance as of January 1, 2009 and the effect on our consolidated financial statements is discussed in Note 14 to our consolidated financial statements.

In June 2008, the FASB ratified revised guidance, which is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years, that defines when adjustment features within contracts are considered to be equity-indexed. We adopted this guidance, which is applicable to our 2006 Notes due to the provisions contained therein that protect the holders from declines in our stock price, as of January 1, 2009. This guidance is applied prospectively, with a cumulative effect adjustment recorded to accumulated deficit as of January 1, 2009, as if the revised guidance had been applied to the 2006 Notes since their issuance. See Note 14 to our consolidated financial statements for additional information as to the effect of the adoption of this guidance.

In April 2009, the FASB issued revised guidance to require disclosures by publicly traded companies about the fair value of financial instruments for interim reporting periods as well as in annual financial statements. This revised guidance also requires those disclosures in summarized financial information at interim reporting periods. This authoritative guidance is effective for interim reporting periods ending after June 15, 2009, with early adoption permitted for periods ending after March 15, 2009. The adoption of this authoritative guidance did not have an impact on our financial position or results of operations but required additional disclosure (see Notes 14 and 15 to our consolidated financial statements).

In May 2009, the FASB issued guidance establishing general standards of accounting for and disclosures of events that occur after the balance sheet date but before financial statements are issued. This guidance also required entities to disclose the date through which subsequent events were evaluated as well as the rationale for why that date was selected. This guidance is effective for interim and annual periods ending after June 15, 2009. The

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adoption of this guidance did not have an impact on our financial position or results of operations. In February 2010, the FASB revised this guidance and removed the requirement to disclose the date through which subsequent events are reviewed. We have performed an evaluation of subsequent events and determined we did not have any material recognizable or unrecognizable subsequent events.

In October 2009, the FASB revised authoritative guidance on multiple-deliverable revenue arrangements providing a greater ability to separate and allocate arrangement consideration in a multiple-deliverable revenue arrangement by requiring the use of estimated selling price to allocate arrangement consideration, thereby eliminating the use of the residual method of allocation. The revised guidance also requires expanded qualitative and quantitative disclosures surrounding multiple-deliverable revenue arrangements. This guidance is effective for fiscal years beginning after June 15, 2010 and may be applied retrospectively or prospectively for new or materially modified arrangements. Early adoption is permitted. We will evaluate the impact of this standard on future revenue arrangements that we may enter into.

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Item 7A. ***Quantitative and Qualitative Disclosures About Market Risk***

In the normal course of business, we are exposed to fluctuations in interest rates as we seek debt financing and invest excess cash. We are also exposed to foreign currency exchange rate fluctuation risk related to our transactions denominated in foreign currencies. We do not currently employ specific strategies, such as the use of derivative instruments or hedging, to manage these exposures. Our currency exposures vary, but are primarily concentrated in the Euro. During the year ended December 31, 2009, there has been no material change with respect to our interest rate and foreign currency exposures or our approach toward those exposures. However, we are exploring possible commercialization of Oncophage outside of the U.S., which could result in increased foreign currency exposure.

The information below summarizes our market risks associated with debt obligations as of December 31, 2009. Fair value included herein has been estimated taking into consideration the nature and terms of each instrument and the prevailing economic and market conditions at December 31, 2009. The table presents principal payments by year of maturity based on the terms of the debt (in thousands).

	Estimated Fair Value (2)	Outstanding Principal Amount December 31, 2009	Year of Maturity 2009	2011	2012
Long-term debt (1)	$ 43,647	$ 52,185	$ 146	$ 32,054	$ 19,985

(1) Fixed interest rates range from 5.25% to 8%. The above table is based on the assumptions that future interest on the 2006 Notes is paid in cash and that these notes are not converted at maturity (August 30, 2011). In certain circumstances, the 2006 Notes could be called or converted before then. In addition, the table is based on the assumption that the 2005 Notes are redeemed on February 1, 2012. In certain circumstances, the 2005 Notes could be converted on or before February 1, 2012. In addition, the note holders of our 2005 Notes can require us to redeem debt at certain dates between 2012 and 2020. If the 2005 Notes are not converted and we are not required to purchase the notes, they mature on February 1, 2025.

(2) The estimated fair value of our long-term debt was derived by evaluating the nature and terms of each note and considering the prevailing economic and market conditions at the balance sheet date. In addition, the fair value of our 2005 Notes was estimated based on the most recent market transactions.

We had cash, cash equivalents, and short-term investments at December 31, 2009 of $30.1 million, which are exposed to the impact of interest and foreign currency exchange rate changes, and our interest income fluctuates as interest rates change. Due to the short-term nature of our investments in money market funds, our carrying value approximates the fair value of these investments at December 31, 2009, however, we are subject to investment risk.

We invest our cash, cash equivalents, and short-term investments in accordance with our Investment Policy. The primary objectives of our Investment Policy are to preserve principal, maintain proper liquidity to meet operating needs, and maximize yields. We review our Investment Policy annually and amend it as deemed necessary. Currently, the Investment Policy prohibits investing in any structured investment vehicles and asset-backed commercial paper. Although our investments are subject to credit risk, our Investment Policy specifies credit quality standards for our investments and limits the amount of credit exposure from any single issue, issuer, or type of investment. Our investments are also subject to interest rate risk and will decrease in value if market interest rates increase. However, due to the conservative nature of our investments and relatively short duration, interest rate risk is mitigated. We do not invest in derivative financial instruments. Accordingly, we do not believe that there is currently any material market risk exposure with respect to derivative or other financial instruments that would require disclosure under this item.

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Item 8. ***Financial Statements and Supplementary Data***

INDEX TO FINANCIAL STATEMENTS

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders

Antigenics Inc.:

We have audited the accompanying consolidated balance sheets of Antigenics Inc. and subsidiaries as of December 31, 2009 and 2008, and the related consolidated statements of operations, stockholders equity (deficit) and comprehensive loss, and cash flows for each of the years in the three-year period ended December 31, 2009. These consolidated financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these consolidated 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. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes 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, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Antigenics Inc. and subsidiaries as of December 31, 2009 and 2008, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2009, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Antigenics Inc. s internal control over financial reporting as of December 31, 2009, based on criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated March 15, 2010 expressed an unqualified opinion on the effectiveness of the Company s internal control over financial reporting.

As discussed in Note 2 to the consolidated financial statements, in 2009 the Company retrospectively changed its method of accounting for certain convertible debt instruments that may be settled in cash upon conversion due to the adoption of new accounting requirements issued by the FASB. In addition, as discussed in Note 2 to the consolidated financial statements, the Company changed its method of evaluating when adjustment features within contracts are considered to be equity indexed due to the adoption of new accounting requirements issued by the FASB, as of January 1, 2009.

/s/ KPMG LLP

Boston, Massachusetts

March 15, 2010

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ANTIGENICS INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

	December 31, 2009	December 31, 2008 (as adjusted)
ASSETS		
Cash and cash equivalents	$ 20,066,817	$ 24,469,008
Short-term investments	9,998,294	9,993,617
Inventories	324,035	226,376
Prepaid expenses	751,960	610,462
Other current assets	391,723	187,013
Total current assets	31,532,829	35,486,476
Plant and equipment, net of accumulated amortization and depreciation of $28,612,631 and $25,880,999 at December 31, 2009 and 2008, respectively	8,891,124	11,535,467
Goodwill	2,572,203	2,572,203
Core and developed technology, net of accumulated amortization of $9,753,106 and $8,645,844 at December 31, 2009 and 2008, respectively	1,319,523	2,426,785
Debt issuance costs, net of accumulated amortization of $1,139,807 and $980,323 at December 31, 2009 and 2008, respectively	293,575	717,833
Other long-term assets	1,264,833	4,083,442
Total assets	$ 45,874,087	$ 56,822,206
LIABILITIES AND STOCKHOLDERS DEFICIT		
Current portion, long-term debt	$ 146,061	$ 146,061
Current portion, deferred revenue	1,501,902	1,481,999
Accounts payable	895,338	540,529
Accrued liabilities	2,597,056	4,618,806
Other current liabilities	214,591	209,585
Total current liabilities	5,354,948	6,996,980
Convertible senior notes	49,494,119	64,125,926
Deferred revenue	2,976,538	3,436,845
Derivative liability	2,665,156	
Other long-term liabilities	2,358,293	2,592,882
Commitments and contingencies (Notes 13 and 16)		
STOCKHOLDERS DEFICIT		
Preferred stock, par value $0.01 per share; 25,000,000 shares authorized:		
Series A convertible preferred stock; 31,620 shares designated, issued, and outstanding at December 31, 2009 and 2008; liquidation value of $31,817,625 at December 31, 2009	316	316
Series B2 convertible preferred stock; 3,105 and 5,250 shares designated, issued, and outstanding at December 31, 2009 and 2008, respectively	31	53
Common stock, par value $0.01 per share; 250,000,000 shares authorized; 90,015,425 and 66,497,702 shares issued at December 31, 2009 and 2008, respectively	900,154	664,977
Additional paid-in capital	544,961,442	511,447,653
Treasury stock, at cost; 260,944 and 143,031 shares of common stock at December 31, 2009 and 2008, respectively	(324,792)	(269,849)
Accumulated deficit	(562,512,118)	(532,173,577)
Total stockholders deficit	(16,974,967)	(20,330,427)

Total liabilities and stockholders deficit	$ 45,874,087	$ 56,822,206

See accompanying notes to consolidated financial statements.

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ANTIGENICS INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

For the Years Ended December 31, 2009, 2008, and 2007

	2009	2008 (as adjusted)	2007
Revenue	$ 3,334,444	$ 2,651,081	$ 5,552,307
Operating expenses:			
Research and development	(16,902,537)	(20,662,987)	(21,788,541)
General and administrative	(14,110,514)	(19,831,858)	(17,041,339)
Operating loss	(27,678,607)	(37,843,764)	(33,277,573)
Other income (expense):			
Non-operating income	2,568,545	12,355,677	611
Interest expense	(5,344,713)	(6,278,492)	(6,125,061)
Interest income	137,482	965,843	1,467,067
Net loss	(30,317,293)	(30,800,736)	(37,934,956)
Dividends on series A convertible preferred stock	(790,500)	(790,500)	(790,500)
Net loss attributable to common stockholders	$ (31,107,793)	$ (31,591,236)	$ (38,725,456)
Per common share data, basic and diluted:			
Net loss attributable to common stockholders	$ (0.39)	$ (0.50)	$ (0.83)
Weighted average number of common shares outstanding, basic and diluted	79,017,143	63,249,458	46,511,577

See accompanying notes to consolidated financial statements.

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ANTIGENICS INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY (DEFICIT) AND COMPREHENSIVE LOSS

For the Years Ended December 31, 2009, 2008, and 2007

(As adjusted)

	Series A Convertible Preferred Stock		Series B1 Convertible Preferred Stock		Series B2 Convertible Preferred Stock		Common Stock			Treasury Stock				
	Number of Shares	Par Value	Number of Shares	Par Value	Number of Shares	Par Value	Number of Shares	Par Value	Additional Paid-In Capital	Number of Shares	Amount	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total
alance at anuary 1, 2007	31,620	$ 316		$		$	45,843,751	$ 458,438	$ 452,438,154		$	$ (21,853)	$ (463,437,885)	$ (10,562,830)
omprehensive oss:														
et loss													(37,934,956)	(37,934,956)
nrealized gain n marketable ecurities, net												21,853		21,853
omprehensive oss														(37,913,103)
hare-based ompensation									3,555,787					3,555,787
hares issued n private lacement			10,000	100	5,250	53	1,623,377	16,234	4,724,969					4,741,356
mployee hare purchases							48,813	488	77,510					77,998
hares issued nder Directors eferred ompensation lan							15,629	156	74,344					74,500
hares issued o a consultant							8,333	83	24,917					25,000
eclassification f liability lassified ption grants									(565,604)					(565,604)
esting of onvested hares							17,104	171	(171)					
reasury stock eceived for ested share tax ayments										5,953	(12,168)			(12,168)
ividends on eries A onvertible referred stock $25 per share)									(790,500)					(790,500)
alance at ecember 31, 007	31,620	316	10,000	100	5,250	53	47,557,007	475,570	459,539,406	5,953	(12,168)		(501,372,841)	(41,369,564)

See accompanying notes to consolidated financial statements.

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ANTIGENICS INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY (DEFICIT) AND COMPREHENSIVE LOSS (Continued)

For the Years Ended December 31, 2009, 2008, and 2007

(As adjusted)

	Series A Convertible Preferred Stock		Series B1 Convertible Preferred Stock		Series B2 Convertible Preferred Stock		Common Stock		Additional	Treasury Stock		Accumulated Other		
	Number of Shares	Par Value	Number of Shares	Par Value	Number of Shares	Par Value	Number of Shares	Par Value	Paid-In Capital	Number of Shares	Amount	Comprehensive Loss	Accumulated Deficit	Total
oss and prehensive													(30,800,736)	(30,800,7
e-based pensation									5,265,530					5,265,5
es issued ivate ement							15,708,717	157,087	45,382,134					45,539,2
es sold at narket							271,762	2,718	801,238					803,9
cise of k options							28,469	285	46,277					46,5
loyee share hases							171,113	1,711	285,219					286,9
version of s B1 ertible rred stock			(10,000)	(100)			1,585,197	15,852	(15,752)					
es issued r Directors rred pensation							61,938	619	228,381					229,0
es issued consultant							346,509	3,465	814,161					817,6
assification ability ified n grants									(100,771)					(100,7
ing of ested es							766,990	7,670	(7,670)					
sury stock ved for d share tax ments										137,078	(257,681)			(257,6
dends on s A ertible rred stock per share)									(790,500)					(790,5
nce at ember 31,	31,620	316			5,250	53	66,497,702	664,977	511,447,653	143,031	(269,849)		(532,173,577)	(20,330,4

See accompanying notes to consolidated financial statements.

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ANTIGENICS INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY (DEFICIT) AND COMPREHENSIVE LOSS (Continued)

For the Years Ended December 31, 2009, 2008, and 2007

(As adjusted)

	Series A Convertible Preferred Stock		Series B1 Convertible Preferred Stock		Series B2 Convertible Preferred Stock		Common Stock		Additional	Treasury Stock		Accumulated Other		
	Number of Shares	Par Value	Number of Shares	Par Value	Number of Shares	Par Value	Number of Shares	Par Value	Paid-In Capital	Number of Shares	Amount	Comprehensive Loss	Accumulated Deficit	Total
Net loss and comprehensive loss													(30,317,293)	(30,317,293)
Adoption of EITF 07-5									(1,352,317)				(21,248)	(1,373,565)
Share-based compensation									3,115,642					3,115,642
Shares issued in private placements							9,385,965	93,860	18,478,795					18,572,655
Conversion of series B2 preferred shares					(2,145)	(22)	5,929,212	59,292	(59,270)					
Shares issued to repurchase convertible senior notes							5,597,362	55,974	14,078,215					14,134,189
Exercise of stock options							79,276	792	140,520					141,312
Employee share purchases							41,300	413	16,520					16,933
Shares issued under Directors Deferred Compensation Plan							15,376	154	21,346					21,500
Shares issued to CEO in lieu of cash compensation							130,143	1,302	108,698					110,000
Reclassification of liability classified option grants									(220,470)					(220,470)
Vesting of nonvested shares							2,339,089	23,390	(23,390)					
Treasury stock received for vested share tax payments										117,913	(54,943)			(54,943)
Dividends on series A convertible preferred stock ($25 per share)									(790,500)					(790,500)

Balance at December 31, 2009	31,620	$ 316	$ 3,105	$ 31	90,015,425	$ 900,154	$ 544,961,442	260,944	$ (324,792)	$	$ (562,512,118)	$ (16,974,967)

See accompanying notes to consolidated financial statements.

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ANTIGENICS INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

For the Years Ended December 31, 2009, 2008, and 2007

	2009	2008 (as adjusted)	2007
Cash flows from operating activities:			
Net loss	$ (30,317,293)	$ (30,800,736)	$ (37,934,956)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	4,108,538	4,634,186	5,381,278
Share-based compensation	3,130,804	5,581,731	3,055,620
Noncash interest expense	4,014,840	3,474,115	3,246,151
Loss on monetization of receivable	317,512		
Gain on extinguishment of debt	(2,653,387)	(7,734,042)	
Gain on sale of patent applications		(4,619,325)	
Change in fair value of derivative liability	(47,707)		
Loss on disposal of assets	51,584	17,053	5,137
Changes in operating assets and liabilities:			
Accounts receivable		318,707	(136,214)
Inventories	(97,659)	284,496	(72,228)
Prepaid expenses	(141,498)	226,613	470,573
Accounts payable	296,094	(133,944)	(425,197)
Deferred revenue	(440,404)	467,309	1,322,866
Accrued liabilities and other current liabilities	(2,120,876)	(690,733)	(1,645,941)
Other operating assets and liabilities	(293,559)	63,395	41,913
Net cash used in operating activities	(24,193,011)	(28,911,175)	(26,690,998)
Cash flows from investing activities:			
Proceeds from maturities of available-for-sale securities	30,000,000	24,117,910	22,750,000
Purchases of available-for-sale securities	(29,986,794)	(29,911,527)	(11,051,841)
Investment in limited partner interest			(165,000)
Proceeds from sale of limited partner interest			1,665,000
Proceeds from sale of equipment	53,550		
Purchases of plant and equipment	(243,868)	(206,010)	(11,208)
Sale of patent applications		2,000,000	
Collection of receivable from sale of patent applications	2,337,475		
Net cash provided by (used in) investing activities	2,160,363	(3,999,627)	13,186,951
Cash flows from financing activities:			
Net proceeds from sales of equity	18,572,655	46,545,177	4,539,356
Proceeds from exercise of stock options	141,312	46,562	
Proceeds from employee stock purchases	16,933	286,930	77,998
Treasury stock received to satisfy minimum tax withholding requirements	(54,943)	(257,681)	(12,168)
Payments of series A convertible preferred stock dividends	(790,500)	(790,500)	(790,500)
Debt issuance costs			(50,000)
Payments of long-term debt	(255,000)	(2,930,000)	
Net cash provided by financing activities	17,630,457	42,900,488	3,764,686
Net (decrease) increase in cash and cash equivalents	(4,402,191)	9,989,686	(9,739,361)

Cash and cash equivalents, beginning of year	24,469,008	14,479,322	24,218,683
Cash and cash equivalents, end of year	$ 20,066,817	$ 24,469,008	$ 14,479,322
Supplemental cash flow information:			
Cash paid for interest	$ 1,573,906	$ 2,802,858	$ 2,625,000
Non-cash investing and financing activities:			
Issuance of senior secured convertible notes as payment in-kind for interest	$ 2,418,332	$ 2,235,883	$ 2,067,200
Issuance of note receivable for assignment of certain patent applications		2,619,325	
Issuance of common stock, $0.01 par value, as payment of long-term debt including accrued and unpaid interest	14,134,189		

See accompanying notes to consolidated financial statements.

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ANTIGENICS INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) Description of Business

Antigenics Inc. (including its subsidiaries, also referred to as Antigenics, the Company, we, us, and our) is a biotechnology company develo and commercializing technologies to treat cancers and infectious diseases, primarily based on immunological approaches. Our most advanced product, Oncophage® (vitespen), is a patient-specific therapeutic cancer vaccine registered for use in Russia. As resources allow, we explore potential opportunities to seek product approval in other jurisdictions. Oncophage has been tested in Phase 3 clinical trials for the treatment of renal cell carcinoma, the most common type of kidney cancer, and for metastatic melanoma, and it has also been tested in Phase 1 and Phase 2 clinical trials in a range of indications. It is currently in Phase 2 clinical trials in glioma, a type of brain cancer. Our product candidate portfolio includes (1) QS-21 Stimulon® adjuvant, or QS-21, which is used in numerous vaccines under development in trials, some as advanced as Phase 3, for a variety of diseases, including hepatitis, human immunodeficiency virus, influenza, cancer, Alzheimer s disease, malaria, and tuberculosis, (2) AG-707, a therapeutic vaccine program tested in a Phase 1 clinical trial for the treatment of genital herpes, and (3) Aroplatin , a liposomal chemotherapeutic tested in a Phase 1 clinical trial for the treatment of solid malignancies and B-cell lymphomas. Further internal clinical development of AG-707 and Aroplatin is currently on hold due to cost-containment efforts. Our business activities have included product research and development, intellectual property prosecution, manufacturing, regulatory and clinical affairs, corporate finance and development activities, market development, and support of our collaborations.

Our product candidates require clinical trials and approvals from regulatory agencies, as well as acceptance in the marketplace. Part of our strategy is to develop and commercialize some of our product candidates by continuing our existing arrangements with academic and corporate collaborators and licensees and by entering into new collaborations.

We have incurred significant losses since our inception. As of December 31, 2009, we had an accumulated deficit of $562.5 million. Since our inception, we have financed our operations primarily through the sale of equity and convertible notes, interest income earned on cash, cash equivalents, and short-term investment balances, and debt provided through secured lines of credit. We believe that, based on our current plans and activities, our working capital resources as of December 31, 2009, anticipated revenues, and the estimated proceeds from our license, supply, and collaborative agreements will be sufficient to satisfy our liquidity requirements into 2011. We closely monitor our cash needs. We continue to monitor the likelihood of success of our key initiatives and are prepared to discontinue funding of such activities if they do not prove to be commercially feasible. In addition, we will continue to adjust other spending as needed in order to preserve liquidity. We expect to attempt to raise additional funds in advance of depleting our current funds. We may attempt to raise funds by: (1) licensing technologies or products to one or more collaborative partners, (2) renegotiating license and/or supply agreements with current licensees or collaborative partners, (3) completing an outright sale of assets, (4) securing additional debt financing, and/or (5) selling additional equity securities. Satisfying long-term liquidity needs may require the successful commercialization of our product, Oncophage, and/or one or more partnering arrangements for Oncophage, vaccines containing QS-21 under development by our licensees, and potentially other product candidates, and will require additional capital.

(2) Summary of Significant Accounting Policies

(a) Basis of Presentation and Principles of Consolidation

The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles and include the accounts of Antigenics and our wholly-owned subsidiaries. All significant intercompany transactions and accounts have been eliminated in consolidation. Certain prior period amounts have been retrospectively adjusted in order to conform to the current period s presentation, including changes

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resulting from the January 1, 2009 adoption of Financial Accounting Standards Board (FASB) Staff Position APB 14-1, *Accounting for Convertible Debt Instruments That May Be Settled in Cash upon Conversion (Including Partial Cash Settlement)* contained within Accounting Standards Codification (ASC) 470-20, *Debt, Debt with Conversion and other Options*.

(b) Segment Information

We are managed and operated as one business. The entire business is managed by a single executive operating committee that reports to the chief executive officer. We do not operate separate lines of business with respect to any of our product candidates. Accordingly, we do not prepare discrete financial information with respect to separate product areas or by location and do not have separately reportable segments as defined by ASC 280, *Segment Reporting*.

(c) Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. We base those estimates on historical experience and on various assumptions that are believed to be reasonable under the circumstances. Actual results could differ from those estimates.

(d) Cash and Cash Equivalents

We consider all highly liquid investments purchased with maturities at acquisition of three months or less to be cash equivalents. As of December 31, 2009 and 2008, cash equivalents consist primarily of money market funds.

(e) Investments

We classify investments in marketable securities at the time of purchase. At December 31, 2009 and 2008, all marketable securities are classified as available-for-sale and as such, the investments are recorded at fair value. Gains and losses on the sale of marketable securities are recognized in operations based on the specific identification method. At December 31, 2009 and 2008, our investments consisted of institutional money market funds and U.S. treasury bills.

Investments of less than 20% of the voting control of companies or other entities over whose operating and financial policies we do not have the power to exercise significant influence are accounted for by the cost method. We record our investments at cost and recognize dividends received as income. The carrying values of investments are periodically reviewed to determine whether any decline in value is other than temporary. Other than temporary declines in the value of available-for-sale securities and other investments are charged to operations.

(f) Concentrations of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk are primarily cash equivalents, investments, and accounts receivable. We invest our cash, cash equivalents and investments in accordance with our Investment Policy, which specifies high credit quality standards and limits the amount of credit exposure from any single issue, issuer, or type of investment. We carry balances in excess of federally insured levels, however, we have not experienced any losses to date from this practice. Credit risk on accounts receivable is minimized by the financial position of the entities with which we do business. Credit losses from our customers have been immaterial.

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(g) Inventories

Inventories are stated at the lower of cost or market. Cost has been determined using standard costs that approximate the first-in, first-out method.

(h) Plant and Equipment

Plant and equipment, including software developed for internal use, are carried at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. Amortization of leasehold improvements is computed over the shorter of the lease term or estimated useful life of the asset. Additions and improvements are capitalized, while repairs and maintenance are charged to expense as incurred.

(i) Fair Value of Financial Instruments

The estimated fair values of all of our financial instruments, excluding debt, approximate their carrying amounts in the consolidated balance sheets. As of December 31, 2009, the fair value of our 5.25% convertible senior notes due 2025 (the 2005 Notes) was estimated based on the most recent market transactions. The fair value of our 8% senior secured convertible notes due August 2011 (the 2006 Notes) exclusive of the conversion option is based on a present value methodology. The outstanding principal amount of debt, including the current portion, is $52.2 million and $68.0 million at December 31, 2009 and 2008, respectively.

(j) Revenue Recognition

Revenue for services under research and development contracts are recognized as the services are performed, or as clinical trial materials are provided. Non-refundable milestone payments that represent the completion of a separate earnings process are recognized as revenue when earned. License fees and royalties are recognized as they are earned. Revenue recognized from collaborative agreements is based upon the provisions of ASC 605-25, *Revenue Recognition Multiple-Element Arrangements*. To date, we have recognized no revenue from the sale of commercialized products. For the years ended December 31, 2009, 2008, and 2007, 51%, 68%, and 68%, respectively, of our revenue was earned from one research partner. In addition, 32% and 27% of our revenue for the years ended December 31, 2009 and 2008 was earned from one of our licensees.

(k) Foreign Currency Transactions

Gains and losses from our euro based currency accounts and foreign currency transactions, such as those resulting from the translation and settlement of receivables and payables denominated in foreign currencies, are included in the consolidated statements of operations. The Company does not currently use derivative financial instruments to manage the risks associated with foreign currency fluctuations. The Company recorded foreign currency (losses) gains of $(32,000), $(378,000), and $8,000 for the years ended December 31, 2009, 2008, and 2007, respectively. Such gains and losses are included as a component of operating expenses.

(l) Research and Development

Research and development expenses include the costs associated with our internal research and development activities, including salaries and benefits, share-based compensation, occupancy costs, clinical manufacturing costs, related administrative costs, and research and development conducted for us by outside advisors, such as sponsored university-based research partners and clinical study partners. We account for our clinical study costs by estimating the total cost to treat a patient in each clinical trial and recognizing this cost based on estimates of when the patient receives treatment, beginning when the patient enrolls in the trial. Research and development expenses also include the cost of clinical trial materials shipped to our research partners. Research and development costs are expensed as incurred.

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(m) Share-Based Compensation

We account for share-based compensation in accordance with the provisions of ASC 718, *Compensation Stock Compensation* and ASC 505-50, *Equity-Based Payments to Non-Employees.* Share-based compensation expense includes compensation expense for all share-based options granted prior to, but not yet vested as of, January 1, 2006, based on the estimated grant date fair value. In addition, share-based compensation expense includes compensation expense for all share-based options and nonvested shares granted, modified, or settled after January 1, 2006, based on the estimated grant date fair value. Under the fair value recognition provisions, we recognize share-based compensation net of an estimated forfeiture rate and only recognize compensation cost for those shares expected to vest. Compensation cost is recognized on a straight-line basis over the requisite service period of the award. See Note 10 for a further discussion on share-based compensation.

(n) Income Taxes

Income taxes are accounted for under the asset and liability method with deferred tax assets and liabilities recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis and net operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which such items are expected to be reversed or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the consolidated statement of operations in the period that includes the enactment date. Deferred tax assets are recorded when they more likely than not are expected to be realized.

(o) Net Loss Per Share

Basic income and loss per common share is calculated by dividing the net loss attributable to common stockholders by the weighted average number of common shares outstanding (including common shares issuable under our Directors Deferred Compensation Plan). Diluted income per common share is calculated by dividing net income attributable to common stockholders by the weighted average number of common shares outstanding (including common shares issuable under our Directors Deferred Compensation Plan) plus the dilutive effect of outstanding instruments such as warrants, stock options, nonvested shares, convertible preferred stock, and convertible notes. Because we have reported a net loss attributable to common stockholders for all annual periods presented, diluted loss per common share is the same as basic loss per common share, as the effect of utilizing the fully diluted share count would have reduced the net loss per common share. Therefore, shares underlying the warrants outstanding or issuable to acquire 41,966,718 shares, the outstanding stock options to acquire 6,148,621 shares, the 200,029 nonvested shares, the 31,620 outstanding shares of series A convertible preferred stock, the 3,105 outstanding shares of series B2 convertible preferred stock, and the impact of conversion of our 2005 Notes and our 2006 Notes are not included in the calculation of diluted net loss per common share.

(p) Goodwill and Acquired Intangible Assets

Goodwill represents the excess of cost over the fair value of net assets of businesses acquired. Goodwill is not amortized, but instead tested for impairment at least annually. Intangible assets with estimable useful lives are amortized over their respective estimated useful lives to their estimated residual values, and reviewed for impairment as deemed necessary.

Annually we assess whether there is an indication that goodwill is impaired, or more frequently if events and circumstances indicate that the asset might be impaired during the year. We perform our annual impairment test as of October 31 of each year. We consider ourselves a single reporting unit for purposes of the impairment test. We determine our fair value using the quoted market price of our common stock, adjusted for certain factors, and compare it to our net book value at the date of our evaluation. To the extent our net book value exceeds the fair value, there is an indication that the reporting unit goodwill may be impaired and a second step of the impairment test is performed to determine the amount of the impairment to be recognized, if any.

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The costs of core and developed technology are presented at their estimated fair value as of their acquisition date. These costs are being amortized on a straight-line basis over their estimated useful lives of 10 years.

(q) Accounting for Asset Retirement Obligations

We record the fair value of an asset retirement obligation as a liability in the period in which we incur a legal obligation associated with the retirement of tangible long-lived assets that result from the acquisition, construction, development, and/or normal use of the assets. A legal obligation is a liability that a party is required to settle as a result of an existing or enacted law, statute, ordinance, or contract. We are also required to record a corresponding asset that is depreciated over the life of the asset. Subsequent to the initial measurement of the asset retirement obligation, the obligation will be adjusted at the end of each period to reflect the passage of time (accretion) and changes in the estimated future cash flows underlying the obligation. Changes in the liability due to accretion are charged to the consolidated statement of operations, whereas changes due to the timing or amount of cash flows are an adjustment to the carrying amount of the related asset. Our asset retirement obligations primarily relate to the expiration of our facility leases and anticipated costs to be incurred based on our lease terms.

(r) Long-lived Assets

Recoverability of assets to be held and used, other than goodwill and intangible assets not being amortized, is measured by a comparison of the carrying amount of an asset to the undiscounted future net cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future undiscounted cash flows, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds the fair value of the asset. Authoritative guidance requires companies to separately report discontinued operations and extends that reporting to a component of an entity that either has been disposed of (by sale, abandonment, or in a distribution to owners) or is classified as held for sale. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell.

(s) Recent Accounting Pronouncements

In June 2009, the FASB issued the ASC as the single source of authoritative U.S. generally accepted accounting principles (GAAP) recognized by the FASB to be applied by nongovernmental entities in preparation of financial statements in conformity with U.S. GAAP. While the adoption of the ASC as of September 30, 2009 changes how we reference accounting standards, the adoption did not have an impact on our financial position, results of operations, or cash flows.

In March 2008, the FASB issued authoritative guidance, which is effective for fiscal years, and interim periods within those fiscal years, beginning on or after November 15, 2008, that is intended to improve financial reporting about derivative instruments and hedging activities by requiring enhanced disclosures to enable investors to better understand the effects of these activities on an entity s financial position, financial performance, and cash flows. The adoption of this authoritative guidance did not have an impact on our financial position or results of operations but required additional disclosure (see Note 15).

In May 2008, the FASB issued revised guidance, which is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2008, that specifies that issuers of convertible debt instruments that may be settled in cash upon conversion should separately account for the liability and equity components in a manner that will reflect the entity s nonconvertible debt borrowing rate when interest cost is recognized in subsequent periods. We adopted this revised guidance as of January 1, 2009 (see Note 14).

In June 2008, the FASB ratified revised guidance, which is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years, that defines when adjustment features within contracts are considered to be equity-indexed. In January 2009, we adopted this

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guidance, which is applicable to our 2006 Notes due to the provisions contained therein that protect the holders from declines in our stock price. This guidance is applied prospectively, with a cumulative effect adjustment recorded to accumulated deficit as of January 1, 2009, as if the revised guidance had been applied to the 2006 Notes since their issuance (see Note 14).

In April 2009, the FASB issued revised guidance to require disclosures by publicly traded companies about the fair value of financial instruments for interim reporting periods as well as in annual financial statements. This revised guidance also requires those disclosures in summarized financial information at interim reporting periods. This authoritative guidance is effective for interim reporting periods ending after June 15, 2009, with early adoption permitted for periods ending after March 15, 2009. The adoption of this authoritative guidance did not have an impact on our financial position or results of operations but required additional disclosure (see Notes 14 and 15).

In May 2009, the FASB issued guidance establishing general standards of accounting for and disclosures of events that occur after the balance sheet date but before financial statements are issued. This guidance also required entities to disclose the date through which subsequent events were evaluated as well as the rationale for why that date was selected. This guidance is effective for interim and annual periods ending after June 15, 2009. The adoption of this guidance did not have an impact on our financial position or results of operations. In February 2010, the FASB revised this guidance and removed the requirement to disclose the date through which subsequent events are reviewed. We have performed an evaluation of subsequent events and determined we did not have any material recognizable or unrecognizable subsequent events.

In October 2009, the FASB revised authoritative guidance on multiple-deliverable revenue arrangements providing a greater ability to separate and allocate arrangement consideration in a multiple-deliverable revenue arrangement by requiring the use of estimated selling price to allocate arrangement consideration, thereby eliminating the use of the residual method of allocation. The revised guidance also requires expanded qualitative and quantitative disclosures surrounding multiple-deliverable revenue arrangements. This guidance is effective for fiscal years beginning after June 15, 2010 and may be applied retrospectively or prospectively for new or materially modified arrangements. Early adoption is permitted. We will evaluate the impact of this standard on future revenue arrangements that we may enter into.

(3) Inventories

The components of inventories are as follows as of December 31, 2009 and 2008 (in thousands).

	2009	2008
Work in process	$ 242	$ 194
Finished goods	82	32
	$ 324	$ 226

(4) Investments

Cash Equivalents and Short-term Investments

Cash equivalents and short-term investments consisted of the following as of December 31, 2009 and 2008 (in thousands).

	2009		2008	
	Cost	Estimated Fair Value	Cost	Estimated Fair Value
Institutional money market funds	$ 19,468	$ 19,468	$ 22,095	$ 22,095
U.S. treasury bills	9,998	9,998	9,994	9,994
	$ 29,466	$ 29,466	$ 32,089	$ 32,089

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Proceeds from maturities of available-for-sale securities amounted to $30.0 million, $24.1 million, and $22.8 million for the years ended December 31, 2009, 2008, and 2007, respectively. No available-for-sale securities were sold before their maturity in 2009, 2008, or 2007. Gross realized gains and gross realized losses included in net loss as a result of those maturities were immaterial for each of the years in the three-year period ended December 31, 2009. The change in net unrealized holding gains included in comprehensive loss amounted to $22,000 for the year ended December 31, 2007. As a result of the short-term nature of our investments, there were no unrealized holding gains or losses as of December 31, 2009 and 2008.

Of the investments listed above, $19.5 million and $22.1 million have been classified as cash equivalents on our consolidated balance sheet as of December 31, 2009 and 2008, respectively. Approximately $10.0 million were classified as short-term investments as of December 31, 2009 and 2008.

(5) Plant and Equipment

Plant and equipment as of December 31, 2009 and 2008 consists of the following (in thousands).

	2009	2008	Estimated Depreciable Lives
Furniture, fixtures, and other	$ 1,648	$ 1,648	3 to 10 years
Laboratory and manufacturing equipment	6,817	6,983	4 to 10 years
Leasehold improvements	22,778	22,730	2 to 12 years
Software and computer equipment	6,070	6,055	3 years
Construction in progress	191		
	37,504	37,416	
Less accumulated depreciation and amortization	(28,613)	(25,881)	
	$ 8,891	$ 11,535	

(6) Other Intangible Assets

The following table presents certain information on our intangible assets as of December 31, 2009 and 2008 (in thousands).

	Weighted Average Amortization Period	As of December 31, 2009 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	As of December 31, 2008 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Amortizing intangible assets:							
Core and developed technology	10 years	$ 11,073	$ 9,753	$ 1,320	$ 11,073	$ 8,646	$ 2,427

Our intangible assets are being amortized over their estimated useful lives of 10 years, with no estimated residual values. Amortization expense related to core and developed technology amounted to $1.1 million for each of the years ended December 31, 2009, 2008, and 2007. Amortization expense is estimated at $1.1 million for 2010 and $264,000 in 2011.

(7) Income Taxes

We are subject to taxation in the U.S. and various state, local, and foreign jurisdictions. We remain subject to examination by U.S. Federal, state, local, and foreign tax authorities for tax years 2006 through 2009. With a few exceptions, we are no longer subject to U.S. Federal, state, local, and foreign examinations by tax authorities for the tax year 2005 and prior. However, net operating losses from the tax year 2005 and prior would be subject

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to examination if and when used in a future tax return to offset taxable income. Our policy is to recognize income tax related penalties and interest, if any, in our provision for income taxes and, to the extent applicable, in the corresponding income tax assets and liabilities, including any amounts for uncertain tax positions.

As of December 31, 2009, we have available net operating loss carryforwards of $467.0 million and $161.0 million for Federal and state income tax purposes, respectively, which are available to offset future Federal and state taxable income, if any, and expire between 2010 and 2029. Our ability to use these net operating losses is limited by change of control provisions under Internal Revenue Code Section 382 and may expire unused. In addition, we have $8.8 million and $6.2 million of Federal and state research and development credits, respectively, available to offset future taxable income. These Federal and state research and development credits expire between 2020 and 2029 and 2015 and 2024, respectively. The potential impacts of such provisions are among the items considered and reflected in management s assessment of our valuation allowance requirements.

The tax effect of temporary differences and net operating loss and tax credit carryforwards that give rise to significant portions of the deferred tax assets and deferred tax liabilities as of December 31, 2009 and 2008 are presented below (in thousands).

	2009	2008
Deferred tax assets:		
Net operating loss carryforwards	$ 167,263	$ 172,500
Research and development tax credits	12,929	12,864
Other	13,618	12,200
Total deferred tax assets	193,810	197,564
Less: valuation allowance	(192,292)	(195,114)
Net deferred tax assets	1,518	2,450
Deferred tax liabilities	(1,518)	(2,450)
Net deferred tax	$	$

In assessing the realizablility of deferred tax assets, we consider whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which the net operating loss and tax credit carryforwards can be utilized or the temporary differences become deductible. We consider projected future taxable income and tax planning strategies in making this assessment. In order to fully realize the deferred tax asset, we will need to generate future taxable income sufficient to utilize net operating losses prior to their expiration. Based upon our history of not generating taxable income due to our business activities focused on product development, we believe that it is more likely than not that deferred tax assets will not be realized through future earnings. Accordingly, a valuation allowance has been established for deferred tax assets which will not be offset by the reversal of deferred tax liabilities. The valuation allowance on the deferred tax assets decreased by $2.8 million during the year ended December 31, 2009 and increased by $5.3 million during the year ended December 31, 2008. The net operating loss includes amounts pertaining to tax deductions relating to stock exercises for which any subsequently recognized tax benefit will be recorded as an increase to additional paid-in capital.

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Income tax benefit was nil for each of the years ended December 31, 2009, 2008, and 2007, and differed from the amounts computed by applying the U.S. Federal income tax rate of 34% to loss before income taxes as a result of the following (in thousands).

	2009	2008	2007
Computed expected Federal tax benefit	$ (10,308)	$ (10,472)	$ (12,898)
(Increase) reduction in income taxes benefit resulting from:			
Change in valuation allowance	(3,415)	5,311	14,242
Increase due to uncertain tax positions (as defined below)	241	4,615	
State and local income benefit, net of Federal income tax benefit	(1,498)	(1,799)	(2,252)
Net operating loss expirations	14,759		
Other, net	221	2,345	908
	$	$	$

We adopted guidance contained in ASC 740, *Income Taxes,* related to uncertain tax positions as of January 1, 2007. At the adoption and as of December 31, 2007, total uncertain tax positions were immaterial and accordingly, no adjustments to the consolidated financial statements were required. As of December 31, 2009 and 2008, our gross unrecognized tax benefits totaled $5.3 and $5.1 million, respectively. These unrecognized tax benefits would all impact the effective tax rate if recognized. There are no positions which we anticipate could change within the next twelve months.

A reconciliation of the beginning and ending amount of gross unrecognized tax benefits is as follows (in thousands):

Balance, December 31, 2008	$ 5,060
Increase related to current year positions	79
Increase related to previously recognized positions	210
Balance, December 31, 2009	$ 5,349

(8) Accrued Liabilities

Accrued liabilities consist of the following as of December 31, 2009 and 2008 (in thousands)

	2009	2008
Professional fees	$ 915	$ 1,105
Accrued interest	437	841
Clinical contractors	295	628
Payroll	155	587
Clinical trials	4	207
Other	791	1,251
	$ 2,597	$ 4,619

(9) Equity

Our authorized capital stock consists of 250,000,000 shares of $0.01 par value per share of common stock and 25,000,000 shares of preferred stock, $0.01 par value per share. Our Board of Directors is authorized to issue the preferred stock and to set the voting, conversion, and other rights.

In a private placement in September 2003, we sold 31,620 shares of our series A convertible preferred stock, par value $0.01 per share, for net proceeds of $31.6 million, after deducting offering costs of $14,000. Under the terms and conditions of the Certificate of Designation creating the series A convertible preferred stock, this stock

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is convertible by the holder at any time into our common stock, is non-voting, carries a 2.5% annual dividend yield, has an initial conversion price of $15.81 per common share, subject to adjustment, and is redeemable by us at its face amount ($31.6 million) on or after September 24, 2013. The Certificate of Designation does not contemplate a sinking fund. The series A convertible preferred stock ranks senior to our common stock. In a liquidation, dissolution, or winding up of the Company, the series A convertible preferred stock s liquidation preference must be fully satisfied before any distribution could be made to the holders of the common stock. Other than in such a liquidation, no terms of the series A convertible preferred stock affect our ability to declare or pay dividends on our common stock as long as the series A convertible preferred stock s dividends are accruing. The liquidation value of this series A convertible preferred stock is equal to $1,000 per share outstanding plus any accrued unpaid dividends. Accrued and unpaid dividends of the series A convertible preferred stock aggregated $197,625 or $6.25 per share, at December 31, 2009.

On September 10, 2007, we issued 1,623,377 shares of our common stock at a price of $3.08 per share to a single institutional investor. In conjunction with this transaction, we also issued to the investor 10,000 shares of our new series B1 convertible preferred stock and 5,250 shares of our new series B2 convertible preferred stock. Shares of the series B1 convertible preferred stock permitted the investor, within one year of the anniversary of closing, to purchase up to an additional $10.0 million of common shares at a purchase price equal to the lesser of $3.08 per share or a price calculated based on the then-prevailing price of our common stock minus $0.30 per share. Gross proceeds of $5.0 million were received as a result of this transaction. Net proceeds, after deducting the placement agent fees and offering expenses paid by us, were $4.7 million. The class B convertible preferred stock has been recorded as an equity classified instrument in accordance with the applicable authoritative guidance. In April 2008, we issued 1,585,197 shares of our common stock upon conversion of 10,000 shares of our series B1 convertible preferred stock via a cashless conversion. These shares were issued pursuant to an effective shelf registration statement. Shares of the series B2 convertible preferred stock permit the investor to purchase common shares for consideration of up to 35 percent of the total dollar amount previously invested pursuant to the agreement with the investor, including conversions of the series B1 convertible preferred stock, at a purchase price equal to the lesser of $4.16 per common share or a price calculated based on the then-prevailing price of our common stock, and such right expires seven years from the date of issuance. In April 2009, we issued 5,929,212 shares of our common stock upon conversion of 2,145 shares of our series B2 convertible preferred stock via cashless conversions. Upon completion of the conversions, 3,105 shares of our series B2 convertible preferred stock are still outstanding although no further shares can be converted into shares of common stock. The total number of shares of common stock issued or issuable to the holder of the class B convertible preferred stock cannot exceed 19.9% of our outstanding common stock. No dividends are paid on the class B convertible preferred stock and there are no liquidation preferences.

On January 9, 2008, we entered into a private placement agreement (the January 2008 private placement) pursuant to which we sold 8,708,717 shares of common stock. Investors also received (i) 10-year warrants to purchase, at an exercise price of $3.00 per share, up to 8,708,717 shares of common stock and (ii) unit warrants to purchase, at an exercise price of $3.00 per unit, contingent upon a triggering event as defined in the January 2008 private placement documents, (a) up to 8,708,717 shares of common stock and (b) additional 10-year warrants to purchase, at an exercise price of $3.00 per share, up to 8,708,717 additional shares of common stock. We raised net proceeds in the January 2008 private placement of $25.8 million, after deducting offering costs of $296,000.

In accordance with the terms of the January 2008 private placement, the 10-year warrants became exercisable for a period of 9.5 years as of July 9, 2008. Our private placement in April 2008 qualified as a triggering event, and therefore the unit warrants became exercisable for a period of eighteen months as of July 9, 2008. The unit warrants expired unexercised in January 2010.

In February 2008, we filed a registration statement covering the resale of the 8,708,717 shares of common stock issued and the 8,708,717 shares issuable upon the exercise of the 10-year warrants issued in the January 2008 private placement. The Securities and Exchange Commission (the SEC) declared the resale registration statement effective on February 14, 2008.

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On April 8, 2008, we entered into a private placement agreement (the April 2008 private placement) under which we sold (i) 7,000,000 shares of common stock and (ii) five-year warrants to acquire up to 7,000,000 shares of common stock at an exercise price of $3.75 per share, for $3.00 for each share and warrant sold. The warrants became exercisable for a period of 4.5 years as of October 10, 2008. We raised net proceeds in the April 2008 private placement of $19.7 million, after deducting offering costs of $1.3 million.

In April 2008, we filed a registration statement covering the resale of the 7,000,000 shares of common stock issued and the 7,000,000 shares issuable upon the exercise of the related warrants issued in the April 2008 private placement. The SEC declared the resale registration statement effective on May 7, 2008.

On July 30, 2009, we entered into a private placement agreement under which we issued and sold (i) 5,000,000 shares of our common stock, (ii) six-month warrants to purchase up to 2,500,000 additional shares of common stock at an exercise price of $2.00 per share, and (iii) four-year warrants to purchase up to 2,173,900 additional shares of common stock at an exercise price of $2.30 per share, for $2.00 for each share sold generating gross proceeds of $10.0 million. The six-month warrants expired unexercised in January 2010. Subsequently, we filed, and the SEC declared effective, a registration statement covering the resale of the 5,000,000 shares of common stock issued and the 4,673,900 shares issuable upon the exercise of the related warrants issued in this private placement.

On August 3, 2009, we entered into a private placement agreement under which we issued and sold (i) 4,385,965 shares of our common stock, (ii) six-month warrants to purchase up to 2,192,982 additional shares of common stock at an exercise price of $2.31 per share, and (iii) four-year warrants to purchase up to 1,973,685 additional shares of common stock at an exercise price of $2.50 per share, for $2.28 for each share sold generating gross proceeds of $10.0 million. The warrants are not exercisable for the first six months following the closing, which occurred on August 4, 2009. Subsequently, we filed, and the SEC declared effective, a registration statement covering the resale of the 4,385,965 shares of our common stock issued and the 4,166,667 shares issuable upon the exercise of the related warrants issued in this private placement. In connection with the two private placements during 2009, we raised net proceeds of $18.6 million, after deducting offering costs of $1.4 million.

As part of all private placement agreements, we agreed to register the shares of common stock and the shares of common stock underlying the warrants (with the exception of the unit warrants from the January 2008 private placement) issued to the investors with the SEC within contractually specified time periods. As noted above, we filed registration statements covering all required shares. We have also agreed to use our best efforts to keep the registration statements continuously effective. If we are unable to keep the registration statements continuously effective in accordance with the terms of the private placements, we are subject to liquidated damages of up to a maximum of 10% of the aggregate purchase price paid by the original investors, or $3.8 million as of December 31, 2009.

In April 2008, we issued and sold a total of 271,762 shares of our common stock through our placement agent, Wm Smith & Co., and raised net proceeds of $804,000, after deducting offering costs of $38,000, in at the market transactions. Proceeds from the offering were used for general corporate purposes. This offering was made under an effective shelf registration statement.

During the years ended December 31, 2009, 2008, and 2007, certain employees, in lieu of paying withholding taxes on the vesting of nonvested stock awarded under our 1999 Equity Incentive Plan, as amended (the 1999 EIP), authorized the withholding of an aggregate of 117,913, 137,078, and 5,953 shares, respectively, of common stock to satisfy the minimum tax withholding requirements related to such vesting. We recorded these shares as treasury stock using the cost method at the market price of the common stock on the vesting dates.

(10) Share-based Compensation Plans

Our 1999 EIP authorized awards of incentive stock options within the meaning of Section 422 of the Internal Revenue Code (the Code), non-qualified stock options, nonvested (restricted) stock, and unrestricted stock for up

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to 12,000,000 shares of common stock (subject to adjustment for stock splits and similar capital changes and exclusive of options exchanged at the consummation of mergers) to employees and, in the case of non-qualified stock options, nonvested (restricted) stock, and unrestricted stock, to consultants and directors as defined in the 1999 EIP. The plan terminated on November 15, 2009. On March 12, 2009, our Board of Directors adopted, and on June 10, 2009, our stockholders approved, our 2009 Equity Incentive Plan (the 2009 EIP). The 2009 EIP provides for the grant of incentive stock options intended to qualify under Section 422 of the Code, nonstatutory stock options, restricted stock, unrestricted stock and other equity-based awards, such as stock appreciation rights, phantom stock awards, and restricted stock units, which we refer collectively as Awards, for up to 13,000,000 shares of our common stock (subject to adjustment in the event of stock splits and other similar events). The Board of Directors appointed the Compensation Committee to administer the 1999 EIP and the 2009 EIP.

Under the 1999 Employee Stock Purchase Plan, as amended (the 1999 ESPP), eligible employees purchased shares of common stock at a discount from fair value. There were 450,000 shares of common stock reserved for issuance under the 1999 ESPP. The 1999 ESPP, which terminated on November 15, 2009, was intended to qualify as an employee stock purchase plan within the meaning of Section 423 of the Code. On March 12, 2009, our Board of Directors adopted, and on June 10, 2009, our stockholders approved, the 2009 Employee Stock Purchase Plan (the 2009 ESPP) to provide eligible employees the opportunity to acquire our common stock in a program also designed to comply with Section 423 of the Code. There are 500,000 shares of common stock reserved for issuance under the 2009 ESPP subject to adjustment as defined in the plan. Rights to purchase common stock under the 2009 ESPP are granted at the discretion of the Compensation Committee, which determines the frequency and duration of individual offerings under the plan and the dates when stock may be purchased. Eligible employees participate voluntarily and may withdraw from any offering at any time before the stock is purchased. Participation terminates automatically upon termination of employment. The purchase price per share of common stock in an offering is 85% of the lesser of its fair value at the beginning of the offering period or on the applicable exercise date and may be paid through payroll deductions, periodic lump sum payments, the delivery of our common stock, or a combination thereof. Unless otherwise permitted by the Board of Directors, no participant may acquire more than 20,000 shares of stock in any offering period. No participant is allowed to purchase shares under the 2009 ESPP if such employee would own or would be deemed to own stock possessing 5% or more of the total combined voting power or value of the Company. No offerings will be made under the 2009 ESPP after June 10, 2019.

Our Director s Deferred Compensation Plan, as amended, permits each outside director to defer all, or a portion of, their cash compensation until their service as a director ends or until a specified date into a cash account or a stock account. There are 450,000 shares of our common stock reserved for issuance under this plan. As of December 31, 2009, 92,946 shares have been issued. Amounts deferred to a cash account will earn interest at the rate paid on one-year Treasury bills with interest added to the account annually. Amounts deferred to a stock account will be converted on a quarterly basis into a number of units representing shares of our common stock equal to the amount of compensation which the participant has elected to defer to the stock account divided by the applicable price for our common stock. The applicable price for our common stock has been defined as the average of the closing price of our common stock for all trading days during the calendar quarter preceding the conversion date as reported by The NASDAQ Capital Market. Pursuant to this plan, a total of 319,597 units, each representing a share of our common stock at a weighted average common stock price of $2.19, have been credited to participants stock accounts as of December 31, 2009. The compensation charges for this plan were immaterial for all periods presented.

We use the Black-Scholes option pricing model to value options granted to employees, and non-employees as well as options granted to members of our Board of Directors. All stock option grants have 10-year terms and generally vest ratably over a four-year period. The non-cash charge to operations for the non-employee options with vesting or other performance criteria is affected each reporting period, until the non-employee options vest, by changes in the fair value of our common stock.

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The fair value of each option granted during the periods was estimated on the date of grant using the following weighted average assumptions:

	2009	2008	2007
Expected volatility	94%	71%	71%
Expected term in years	6	5	6
Risk-free interest rate	2.7%	2.8%	4.5%
Dividend yield	0%	0%	0%

Expected volatility is based exclusively on historical volatility data of our common stock. The expected term of stock options granted is based on historical data and other factors and represents the period of time that stock options are expected to be outstanding prior to exercise. The risk-free interest rate is based on U.S. Treasury strips with maturities that match the expected term on the date of grant.

A summary of option activity for 2009 is presented below:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2008	7,873,464	$ 5.00		
Granted	1,513,584	1.64		
Exercised	(79,276)	1.78		
Forfeited	(659,607)	2.04		
Expired	(904,668)	9.17		
Cancelled	(1,594,876)	8.82		
Outstanding at December 31, 2009	6,148,621	$ 2.93	7.1	$ 11,837
Vested or expected to vest at December 31, 2009	5,951,902	$ 2.96	7.0	$ 11,279
Exercisable at December 31, 2009	3,369,205	$ 3.79	6.0	$ 8,993

The weighted average grant-date fair values of options granted during the years ended December 31, 2009, 2008, and 2007 was $ 1.21, $1.03, and $1.57, respectively.

The aggregate intrinsic value in the table above represents the difference between our closing stock price on the last trading day of fiscal 2009 and the exercise price, multiplied by the number of in-the-money options that would have been received by the option holders had all option holders exercised their options on December 31, 2009 (the intrinsic value is considered to be zero if the exercise price is greater than the closing stock price). This amount changes based on the fair market value of our stock. The total intrinsic value of options exercised during the years ended December 31, 2009 and 2008, determined on the dates of exercise, was $54,000 and $21,000, respectively. No options were exercised during the year ended December 31, 2007.

During 2009, 2008, and 2007, all options were granted with exercise prices equal to the market value of the underlying shares of common stock on the grant date. On July 16, 2009, we accepted for cancellation options to purchase 1,594,876 shares of common stock in accordance with the terms of our Tender Offer as included in our Schedule TO filed with the SEC on June 17, 2009. As a result, on July 16, 2009, we granted options to purchase 1,196,161 shares of common stock pursuant to and subject to the terms and conditions of the Tender Offer dated June 17, 2009. The exercise price of each option granted is $1.58 per share, which was the closing price of our common stock as reported by The NASDAQ Capital Market on July 16, 2009. The incremental stock-based compensation expense related to the Tender Offer will be recognized over the vesting period of the new options.

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As of December 31, 2009, $1.7 million of total unrecognized compensation cost related to stock options granted to employees and directors is expected to be recognized over a weighted average period of 1.7 years.

As of December 31, 2009, unrecognized expense for options granted to outside advisors for which performance (vesting) has not yet been completed but the exercise price of the option is known is $65,000. Such amount is subject to change each reporting period based upon changes in the fair value of our common stock, expected volatility, and the risk-free interest rate, until the outside advisor completes his or her performance under the option agreement.

Certain employees and consultants have been granted nonvested stock. The fair value of nonvested stock is calculated based on the closing sale price of our common stock on the date of issuance.

A summary of nonvested stock activity for 2009 is presented below:

	Nonvested Shares	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2008	966,450	$ 1.54
Granted	1,667,941	0.75
Vested	(2,367,419)	1.02
Forfeited	(66,943)	1.35
Outstanding at December 31, 2009	200,029	1.13

As of December 31, 2009, there was $174,000 of unrecognized share-based compensation expense related to these nonvested shares. This cost is expected to be recognized over a weighted average period of 1.7 years. The total intrinsic value of shares vested during the years ended December 31, 2009, 2008, and 2007 was $1.5 million, $1.3 million, and $35,000, respectively.

Cash received from option exercises and purchases under our 1999 ESPP and our 2009 ESPP (collectively the ESPPs) for the years ended December 31, 2009, 2008, and 2007 was $158,000, $333,000, and $78,000, respectively. We issue new shares upon option exercises, purchases under our ESPPs, vesting of nonvested stock, and under the Director s Deferred Compensation Plan. During the years ended December 31, 2009, 2008, and 2007, 41,300 shares, 171,113 shares, and 48,813 shares were issued under the ESPPs, respectively. During the year ended December 31, 2009, 2,221,176 shares, net of 117,913 shares withheld to cover personal income tax withholding, were issued as a result of the vesting of nonvested stock. During the year ended December 31, 2008, 629,912 shares, net of 137,078 shares withheld to cover personal income tax withholding, were issued as a result of the vesting of nonvested stock, and during the year ended December 31, 2007, 11,151 shares, net of 5,953 shares withheld to cover personal income tax withholding, were issued as a result of the vesting of nonvested stock. The shares withheld were recorded as treasury stock using the cost method, at weighted average prices of $0.47 per share, $1.88 per share, and $2.04 per share during the years ended December 31, 2009, 2008, and 2007, respectively, based on the closing sale price of the Company s common stock on the vesting dates, for a total of approximately $55,000, $258,000, and $12,000, respectively.

For the years ended December 31, 2009, 2008, and 2007, 15,376 shares, 61,938 shares, and 15,629 shares, respectively, were issued under our Directors Deferred Compensation Plan.

The impact on our results of operations from share-based compensation for the years ended December 31, 2009, 2008, and 2007 was as follows (in thousands).

	2009	2008	2007
Research and development	$ 864	$ 1,517	$ 892
General and administrative	2,267	4,065	2,164
Total share-based compensation expense	$ 3,131	$ 5,582	$ 3,056

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(11) License, Research, and Other Agreements

In November 1994, we entered into a Patent License Agreement with the Mount Sinai School of Medicine, or Mount Sinai (the Mount Sinai Agreement). Through the Mount Sinai Agreement, we obtained an exclusive worldwide license to patent rights relating to the heat shock protein technology that resulted from the research and development performed by Dr. Pramod Srivastava, our founding scientist and a former member of our Board of Directors. We agreed to pay Mount Sinai a royalty on the net sales of products covered by the licensed patent rights and also provided Mount Sinai with a 0.45% equity interest in the Company (approximately 62,000 shares valued at $90,000 at the time of issuance). The term of the Mount Sinai Agreement ends when the last of the licensed patents expires (2018) or becomes no longer valid. If we fail to pay royalties that are due under the agreement, Mount Sinai may issue written notice to us. If we continue to fail to pay royalties after 60 days from receipt of the written notice, Mount Sinai can terminate the agreement. The Mount Sinai Agreement requires us to use due diligence to make the products covered by the licensed patent rights commercially available, including a requirement for us to use best efforts to reach a number of developmental milestones which have been achieved. If we fail to comply with the due diligence provisions of the agreement, Mount Sinai could take actions to convert our exclusive license to a non-exclusive license after six months written notice. The Mount Sinai Agreement does not contain any milestone payment provisions.

During 1995, Dr. Srivastava moved his research to Fordham University (Fordham). We entered into a sponsored research and technology license agreement with Fordham (the Fordham Agreement) in March 1995 relating to the continued development of the heat shock protein technology and agreed to make payments to Fordham to sponsor Dr. Srivastava s research. Through the Fordham Agreement, we obtained an exclusive, perpetual, worldwide license to all of the intellectual property, including all the patent rights which resulted from the research and development performed by Dr. Srivastava at Fordham. We also agreed to pay Fordham a royalty on the net sales of products covered by the Fordham Agreement through the last expiration date on the patents under the agreement (2018) or when the patents become no longer valid. The agreement does not contain any milestone payment provisions or any diligence provisions. Dr. Srivastava moved his research to the University of Connecticut Health Center (UConn) during 1997 and, accordingly, the parts of the agreement related to payments for sponsored research at Fordham terminated in mid-1997. During the term of the agreement, we paid $2.4 million to Fordham.

We entered into a license agreement with UConn in May 2001 (the License Agreement) that provides us with the exclusive, worldwide rights to technologies discovered and developed under the research agreement. The term of the License Agreement ends when the last of the licensed patents expires (2019) or becomes no longer valid. UConn may terminate the License Agreement: (1) if, after 30 days written notice for breach, we continue to fail to make any payments due under the License Agreement, or (2) we cease to carry on our business related to the patent rights or if we initiate or conduct actions in order to declare bankruptcy. We may terminate the License Agreement upon 90 days written notice. The License Agreement contains aggregate milestone payments of $1.2 million for each product we develop covered by the licensed patent rights.

These milestone payments are contingent upon regulatory filings, regulatory approvals and commercial sales of products. We have also agreed to pay UConn a royalty on the net sales of products covered by the License Agreement as well as annual license maintenance fees beginning in May 2006. Royalties otherwise due on the net sales of products covered by the License Agreement may be credited against the annual license maintenance fee obligations. To date, we have paid $200,000 to UConn under the License Agreement. The License Agreement gives us complete discretion over the commercialization of products covered by the licensed patent rights, but also requires us to use commercially reasonable diligent efforts to introduce commercial products within and outside the United States. If we fail to meet these diligence requirements, UConn may be able to terminate the License Agreement.

In March 2003, we entered into an amendment agreement that amended certain provisions of the License Agreement. The amendment agreement granted us a license to additional patent rights. In consideration for

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execution of the amendment agreement, we agreed to pay UConn an upfront payment and to make future payments for licensed patents or patent applications. Through December 31, 2009, we have paid approximately $100,000 to UConn under the License Agreement, as amended.

We have entered into various agreements with institutions and contract research organizations to conduct clinical studies. Under these agreements, subject to the enrollment of patients and performance by the institution of certain services, we have estimated our payments to be $47.2 million over the term of the studies. For the years ended December 31, 2009, 2008, and 2007, $170,000, $123,000, and $1.5 million, respectively, have been expensed in the accompanying consolidated statements of operations related to these clinical studies. Through December 31, 2009, $46.0 million of this estimate has been paid. The timing of our expense recognition and future payments related to these agreements is dependent on the enrollment of patients and documentation received from the institutions.

In December 2000, Aronex Pharmaceuticals Inc., a company we acquired in July 2001, entered into a license agreement with Sumitomo Pharmaceuticals Co., Ltd. (the Sumitomo Agreement). In September 2003, this agreement was amended and restated with Antigenics. The Sumitomo Agreement grants us the exclusive right to an issued U.S. patent that contains certain claims related to Aroplatin. Except for the treatment of hepatoma, the Sumitomo Agreement gives us the exclusive right to make, use, develop, import, and sell Aroplatin in the United States. The term of the Sumitomo Agreement ends when the licensed patent expires in 2020. Either party may terminate the Sumitomo Agreement by giving written notice to the other party upon the occurrence of the following events: (1) if the other party makes an assignment for the benefit of creditors, is the subject of bankruptcy proceedings, or has a trustee or receiver appointed for substantially all of its assets, (2) if the other party becomes insolvent, or (3) if the other party materially defaults in its performance under the Sumitomo Agreement. Prior to our acquisition of Aronex Pharmaceuticals, Inc., Sumitomo received a $500,000 upfront payment in 2001 from Aronex Pharmaceuticals, Inc. and will receive subsequent milestone payments from us in the aggregate of up to $3.5 million if regulatory filings, regulatory approval, and sales in connection with Aroplatin occur. We agreed to pay Sumitomo royalties on the net sales of Aroplatin in the United States upon commercialization of the product.

In June 1988, a predecessor to Aronex Pharmaceuticals, Inc. entered into an exclusive license agreement with: (1) The Board of Regents of The University of Texas System and (2) The University of Texas System Cancer Center, collectively referred to as the University of Texas. As amended, the exclusive license agreement grants us the exclusive, worldwide license to the University of Texas patent rights containing claims that relate to Aroplatin. The term of the exclusive license agreement expires when the last licensed patent expires, which is anticipated to be in 2015. Either party may terminate the agreement upon 60 days written notice if the other party materially breaches any material terms of the exclusive license agreement. The agreement requires that we meet certain diligence provisions, specifically the conduct of ongoing and active research, developmental activities, marketing, clinical testing, or a licensing program, directed towards the production and sale of Aroplatin. If we fail to comply with these diligence provisions, the University of Texas may be able to terminate the exclusive license agreement upon 90 days written notice. The University of Texas also has the right to terminate the exclusive license agreement in the event that: (1) we discontinue our business, (2) we have a receiver or trustee appointed for our assets, or (3) we are the subject of a bankruptcy proceeding. We agreed to pay the University of Texas royalties on the net sales of Aroplatin. The applicable royalty percentage is dependent on the level of net sales of Aroplatin. We have also agreed to make a $200,000 milestone payment to the University of Texas if the FDA approves a new drug application for Aroplatin. To date, no payments have become due to the University of Texas under the exclusive license agreement.

We have various comprehensive agreements with collaborative partners that allow for the use of QS-21, an investigational adjuvant used in numerous vaccines under development for a variety of diseases including, but not limited to, hepatitis, HIV, influenza, cancer, Alzheimer s disease, malaria, and tuberculosis. These agreements grant exclusive worldwide rights in some fields of use, and co-exclusive or non-exclusive rights in others. The agreements call for royalties to be paid to us by the collaborative partner on the future sales of licensed vaccines that include QS-21.

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On July 6, 2006, we and GlaxoSmithKline Biologicals SA (GSK) entered into an expanded license agreement (the GSK License Agreement) and an expanded Manufacturing Technology Transfer and Supply Agreement (the 2006 GSK Supply Agreement) for the use of QS-21. Under the terms of the agreements, we agreed to supply QS-21 to GSK through 2014. In addition, we agreed to transfer manufacturing technologies under the 2006 GSK Supply Agreement. In conjunction with the GSK License Agreement and the 2006 GSK Supply Agreement, we received a $3.0 million upfront non-refundable payment in July 2006. In February 2007, we received and recorded $2.0 million as revenue as a result of the achievement of a milestone related to the transfer of manufacturing technologies to GSK.

On July 20, 2007, we executed a letter (the GSK Letter) with GSK amending the 2006 GSK Supply Agreement to accelerate GSK s commercial grade QS-21 manufacturing rights previously granted in July 2006. On January 16, 2009, we entered into an Amended and Restated Manufacturing Technology Transfer and Supply Agreement (the Amended GSK Supply Agreement) reflecting the provisions of the letter. Accordingly, from the effective date of the GSK Letter, GSK has the right to manufacture all of its requirements of commercial grade QS-21. In addition, the parties have amended their purchase and supply obligations with respect to pre-commercial grade QS-21. In accordance with the terms of the Amended GSK Supply Agreement, upon our election, GSK is obligated to supply us (or our affiliates, licensees, or customers) certain quantities of commercial grade QS-21 for a stated period of time.

As consideration for our entering into the GSK Letter, we received a $2.0 million upfront non-refundable payment from GSK in August 2007, in lieu of a milestone payment that would have otherwise been payable under the 2006 GSK Supply Agreement. In addition, GSK is obligated to make payments to us totaling $5.25 million through December 2012, of which $1.75 million has been received, for manufacturing profits that were anticipated to have otherwise been earned under the 2006 GSK Supply Agreement. Except as expressly provided in the Amended GSK Supply Agreement, all other financial obligations of GSK under the 2006 GSK Supply Agreement, including royalty payments, remain unchanged. The Amended GSK Supply Agreement does not affect the rights and obligations of the parties under the GSK License Agreement.

During the years ended December 31, 2009, 2008, and 2007, we recognized revenue of $1.3 million, $1.3 million, and $2.8 million, respectively, related to payments received under our license and supply agreements with GSK. Deferred revenue of $3.1 million related to our agreements with GSK is included in deferred revenue on our consolidated balance sheet as of December 31, 2009.

In 2005, Elan Corporation, plc, through its affiliate Elan Pharmaceuticals International Limited (Elan), initiated clinical testing of its modified Alzheimer s disease product candidate containing QS-21. In 2007, Elan initiated Phase 2 studies of the modified Alzheimer s disease product candidate that contains QS-21, and we recognized revenue of $1.0 million for a milestone payment received from Elan based on this advancement.

Effective September 14, 2009, we entered into an Amended and Restated License Agreement (Amended License Agreement) with Elan and Elan Pharmaceuticals, Inc. On September 17, 2009, the Amended License Agreement was assigned to JANSSEN Alzheimer s Immunotherapy, a subsidiary of Johnson & Johnson. Under the terms of the Amended License Agreement assigned to JANSSEN Alzheimer Immunotherapy, they will have the right to develop, make, have made, use, sell, offer for sale, import, and have sold the Alzheimer s disease vaccine that contains QS-21 (the Licensed Product). In addition, pursuant to the terms of the Amended License Agreement, JANSSEN Alzheimer Immunotherapy has the right to manufacture all of its requirements of QS-21 for use in the Licensed Product and we have no further supply obligations. To date, we have received $1.1 million in upfront and milestone payments under this agreement and are entitled to receive future payments contingent upon successful milestone achievements. In addition, we are entitled to receive royalties on a country-by-country basis on net sales of the Licensed Product for a period of at least 10 years after first commercial sale in that country. Deferred revenue of $1.0 million related to this Amended License Agreement is included in deferred revenue on our consolidated balance sheet as of December 31, 2009.

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(12) Certain Related Party Transactions

In March 1995, we entered into a consulting agreement with Dr. Pramod Srivastava, our founding scientist and a former member of our Board of Directors, and upon its expiration in March 2006, we entered into a new consulting agreement, effective March 28, 2006, with Dr. Srivastava. The agreement with Dr. Srivastava has an initial term of five years and is automatically extended for successive terms of one year unless either party notifies the other at least 90 days prior to the expiration of the original or any extension term that the agreement is not to be extended. The agreement may be terminated without cause by us during its term, subject to the payment of compensation for twelve months at the then current rate provided for under the agreement. In exchange for the timely performance of services, as defined in the agreement, Dr. Srivastava is entitled to receive compensation to be established by the Compensation Committee of the Antigenics Board of Directors. In 2005, we granted Dr. Srivastava options to purchase 120,000 shares of our common stock for services performed in 2004. These options vested over four years and are exercisable at $6.92 per share. During the year ended December 31, 2009, we paid Dr. Srivastava an additional $50,000 for his work related to our marketing authorization application submitted to the European Medicines Agency.

On January 9, 2008, we entered into the January 2008 private placement that included (i) 8,708,717 shares of common stock, (ii) warrants to acquire up to 8,708,717 shares of common stock at $3.00 per share, and (iii) unit warrants, which, if exercisable due to a triggering event as that term is defined in the applicable warrant, permit a holder to acquire up to 8,708,717 shares of common stock at $3.00 per share and additional ten-year warrants to acquire up to an additional 8,708,717 shares of common stock at $3.00 per share. In conjunction with this private placement, we sold 542,050 shares of common stock to Garo H. Armen, Ph.D., our Chairman and Chief Executive Officer, and 1,166,667 shares of common stock to Armen Partners LP. Garo H. Armen is general partner of Armen Partners LP and owns a controlling interest therein. In addition to the common stock acquired by Garo H. Armen and Armen Partners LP, each acquired an equal number of both warrants and unit warrants. The unit warrants expired unexercised on January 9, 2010.

(13) Leases

We lease manufacturing, research and development, and office facilities under various long-term lease arrangements. Rent expense (before sublease income) was $2.9 million, $2.9 million, and $3.1 million, for the years ended December 31, 2009, 2008, and 2007, respectively.

We lease a 162,000 square foot facility in Lexington, Massachusetts. We currently occupy 94,000 square feet of this facility. The future minimum rental payments under our leases of our Framingham and New York City facilities, which expire in 2010 and 2012, respectively, and our Lexington headquarters, which expires in 2013, are as follows (in thousands).

Year ending December 31,	
2010	$ 2,915
2011	2,224
2012	2,141
2013	1,406
Total	$ 8,686

In connection with the Framingham and Lexington facilities, we maintain fully collateralized letters of credit of $188,000 and $1.0 million, respectively. No amounts have been drawn on the letters of credit as of December 31, 2009. In addition, for the office space in New York City, we were required to deposit $161,000 with the landlord as an interest-bearing security deposit pursuant to our obligations under the lease.

We have subleased a portion of our Framingham facility and are contractually entitled to receive rental payments of $885,000 in 2010. For the years ended December 31, 2009, 2008, and 2007, we received sublease rental payments of $1.2 million, $1.2 million, and $1.1 million, respectively, with respect to our subleased facilities.

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(14) Debt

As of December 31, 2009, we have $52.2 million in principal of debt outstanding: $146,000 currently due, $32.1 million due in 2011 and $20.0 million due in 2025.

Convertible Notes

On October 30, 2006 (the Issuance Date), we issued $25.0 million of the 2006 Notes to a group of accredited investors (Investors). These 2006 Notes bear interest at 8% (an effective rate of 8.10%) payable semi-annually on December 30 and June 30 in cash or, at our option, in additional notes or a combination thereof and mature on August 30, 2011. During the years ended December 31, 2009 and 2008, we issued additional 2006 Notes in the amount of $2.4 million and $2.2 million, respectively, as payment for interest due.

The 2006 Notes are convertible into our common stock at a fixed conversion price of $3.00 per share at the option of the Investors. If, prior to the maturity date of these notes, we issue or sell, or in accordance with the terms of the 2006 Notes we are deemed to have issued or sold, any shares of our common stock (including the issuance or sale of shares of our common stock owned or held by or for our account, but excluding certain excluded securities) for a consideration per share of less than $3.00 (the New Issuance Price), then immediately after such issuance, the fixed conversion price then in effect shall be reduced to an amount equal to a 16.66% premium to the New Issuance Price. Alternatively, the 2006 Notes can be converted into an interest in one of our wholly-owned subsidiaries that holds the rights or patents to QS-21 and AG-707. If converted into an interest of this subsidiary, the ownership interest in the subsidiary is determined by multiplying the quotient of the conversion amount divided by $25.0 million, by 30%.

For purposes of determining the adjusted New Issuance Price, the following shall be applicable:

(i) Issuance of options. If we in any manner grant or sell any options, other than options granted under the 1999 and 2009 EIPs, and the lowest price per share for which one share of our common stock is issuable upon the exercise of any such option or upon conversion or exchange or exercise of any convertible securities issuable upon exercise of such option is less than $3.00 per share, then such share of our common stock shall be deemed to be outstanding and to have been issued and sold by us at the time of the granting or sale of such option for such price per share.

(ii) Issuance of convertible securities. If we in any manner issue or sell any convertible securities and the lowest price per share for which one share of our common stock is issuable upon such conversion or exchange or exercise thereof is less than $3.00 per share, then such share of our common stock shall be deemed to be outstanding and to have been issued and sold by us at the time of the issuance or sale of such convertible securities for such price per share.

(iii) Change in option price or rate of conversion. If the purchase price provided for in any options is changed, the additional consideration, if any, payable upon the issue, conversion, exchange, or exercise of any convertible securities, or the rate at which any convertible securities are convertible into or exchangeable or exercisable for our common stock changes at any time, the fixed conversion price in effect at the time of such change shall be adjusted to the fixed conversion price which would have been in effect at such time had such options or convertible securities provided for such changed purchase price, additional consideration, or changed conversion rate, as the case may be, at the time initially granted, issued, or sold.

At any time after October 30, 2009, we may call the 2006 Notes and accrued interest at face value for cash if our shares have a minimum average trading price during the prior 30-day period of $7.00 or higher. Such redemption shall not be effective until the 20th business day following notice from us, during which period the Investors may elect to exercise their conversion rights. If the Investors elect at any time to convert the 2006 Notes into ownership of the subsidiary holding the rights or patents to QS-21 and AG-707, we also have the right, within 30 days, to redeem the 2006 Notes, including accrued interest, at a redemption price providing a 30-percent internal rate of return to the Investors. The 2006 Notes are secured by our equity ownership in this subsidiary.

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Upon the maturity of the 2006 Notes, we may elect to repay the outstanding balance in cash or in common stock, subject to certain limitations. If we elect to satisfy the outstanding balance with common shares at maturity, the number of shares issued will be determined by dividing the cash obligation by 90 percent of the average closing price of the common shares for the 20 trading days preceding the maturity date of the 2006 Notes. This right is subject to our market capitalization exceeding $300 million at such time.

In no event will any Investor be obligated to accept equity that would result in an Investor owning in excess of 9.99% of the Company s outstanding common stock at any given time in connection with any conversion, redemption, or repayment of the 2006 Notes. The note agreements include material restrictions on the Company s incurrence of debt and liens while the 2006 Notes are outstanding, as well as other customary covenants. The note agreements also include a change of control provision whereby the holders of the 2006 Notes may require us to redeem all or a portion of the then outstanding 2006 Notes at a price equal to 101% of the conversion amount being redeemed and a right of first refusal provision for the holders of the 2006 Notes on any sales of equity of the subsidiary holding the rights or patents to QS-21 and AG-707, to purchase up to 50% of such sales of equity on the same terms as the third-party purchaser.

If we at any time on or after the Issuance Date subdivide (by any stock split, stock dividend, recapitalization, or otherwise) one or more classes of our outstanding shares of common stock into a greater number of shares, the fixed conversion price in effect immediately prior to such subdivision will be proportionately reduced. If we at any time on or after the Issuance Date combine (by combination, reverse stock split, or otherwise) one or more classes of our outstanding shares of common stock into a smaller number of shares, the fixed conversion price in effect immediately prior to such combination will be proportionately increased.

If any event occurs of the type contemplated above but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights, or other rights with equity features), then our Board of Directors will make an appropriate adjustment in the fixed conversion price then in effect so as to protect the rights of the holders of the 2006 Notes; provided that no such adjustment will increase the fixed conversion price then in effect as otherwise determined.

On November 11, 2008, we entered into an Amendment of Rights Agreement with the majority holder of our 2006 Notes. The Amendment of Rights Agreement amended the definition of an Event of Default under the 2006 Notes to exclude the redemption and repurchase of up to $15 million of our 2005 Notes and modified certain anti-dilutive rights of the holders of the 2006 Notes upon our issuance and sale of certain new securities up to the aggregate dollar amount expended by us for the repurchase of the 2005 Notes. On July 31 and August 3, 2009, the majority holder of our 2006 Notes agreed to waive certain anti-dilutive rights of the holders of the 2006 Notes upon our issuance and sale of certain new securities up to the aggregate dollar amount expended by us for the repurchase of the 2005 Notes during 2009. In connection with the waiver in August 2009, the fixed conversion price was adjusted from $3.50 to $3.00 per share.

On January 25, 2005, we issued $50.0 million of our 2005 Notes. Proceeds from the sale of the 2005 Notes were approximately $48.0 million net of issuance costs. Issuance costs are being amortized using the effective interest method over seven years, the expected life of the 2005 Notes based on the earliest date on which the holders can require redemption. During November 2008, we repurchased $11.8 million in principal of these 2005 Notes for $2.9 million plus accrued interest of $178,000. We recorded a gain of $7.7 million in non-operating income, which is net of related debt issuance costs that were relieved. During May 2009, we repurchased $1.0 million in principal of our 2005 Notes for $255,000 plus accrued interest of $13,000. During June 2009, we issued 5,173,000 shares of our common stock as consideration for $15.9 million in principal of our 2005 Notes including accrued interest of $282,000 and, in September 2009, we issued 424,300 shares of our common stock as consideration for $1.3 million in principal of our 2005 Notes including accrued interest of $7,000. In connection with the repurchases during 2009, we recorded a net gain of $2.7 million in non-operating income, which is comprised of inducement expense of $9.8 million and a gain on extinguishment of debt of $12.5 million.

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The 2005 Notes, which mature in 2025, bear interest payable semi-annually on February 1 and August 1 of each year, at a rate of 5.25% per annum (an effective rate of 5.94%) and are convertible into common stock at an initial conversion price of $10.76 per share.

Subject to the terms of the indenture, this conversion rate may be adjusted for:

- dividends or distributions payable in shares of our common stock to all holders of our common stock or,
- subdivisions, combinations, or certain reclassifications of our common stock, by multiplying the conversion rate in effect before such event by the number of shares a person holding a single common share would own after such event.

The conversion rate may also be adjusted for:

- distributions to all or substantially all holders of our common stock of certain rights or warrants (other than, as described below, certain rights distributed pursuant to a stockholder rights plan) entitling them, for a period expiring not more than 60 days immediately following the record date for the distribution, to purchase or subscribe for shares of our common stock, or securities convertible into or exchangeable or exercisable for shares of our common stock, at a price per share, or having a conversion price per share, that is less than the current market price (as defined in the indenture) per share of our common stock on the record date for the distribution, by multiplying the conversion rate in effect before such event by a fraction whose numerator is the sum of the number of common shares outstanding before the event and the number of shares underlying the rights or warrants and whose denominator is the sum of the number of common shares outstanding before the event and the number of shares of common stock that could be purchased at market price with the aggregate dollar amount of the underlying shares at the below-market price (however, we will not adjust the conversion rate pursuant to this provision for distributions of certain rights or warrants, if we make certain arrangements for holders of the 2005 Notes to receive those rights and warrants upon conversion of the 2005 Notes);
- dividends or other distributions to all or substantially all holders of our common stock of shares of our capital stock (other than our common stock), evidences of indebtedness, or other assets (other than dividends or distributions covered by the bullet points below) or the dividend or distribution to all or substantially all holders of our common stock of certain rights or warrants (other than those covered above or, as described below, certain rights or warrants distributed pursuant to a stockholder rights plan) to purchase or subscribe for our securities, by multiplying the conversion rate in effect before such event by a fraction whose numerator is the current market price of the stock and whose denominator is that price less the fair market value of the dividended or distributed instrument attributable to one share of common stock as determined in good faith by the Board of Directors (if the denominator is less than or equal to zero, then provision will be made for noteholders to receive upon conversion an amount of such instrument as they would have received had they converted all of their securities on the record date);
- cash dividends or other cash distributions by us to all or substantially all holders of our common stock, other than distributions described in the immediately following bullet point, by multiplying the conversion rate in effect immediately before the close of business on the record date for the cash distribution by a fraction whose numerator is the current market price per share of our common stock on the record date and whose denominator is that current market price less the per share amount of the distribution. However, we will not adjust the conversion rate pursuant to this provision to the extent that the adjustment would reduce the conversion price below $0.01; and
- distributions of cash or other consideration by us or any of our subsidiaries in respect of a tender offer or exchange offer for our common stock, where such cash and the value of any such other consideration per share of our common stock validly tendered or exchanged exceeds the current market price per share of our common stock on the last date on which tenders or exchanges may be

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made pursuant to the tender or exchange offer, by multiplying the conversion rate then in effect by a fraction whose numerator is equal to the sum of the aggregate amount of cash distributed and the aggregate fair market value as determined by the Board of Directors of the other consideration distributed and the product of the current market price per share of common stock and the number of shares of common stock outstanding at the last time at which tenders or exchanges could have been made, less the shares validly tendered or exchanged, and whose denominator is the product of the number of shares of common stock outstanding and the current market price of the stock.

If we issue rights, options, or warrants that are only exercisable upon the occurrence of certain triggering events, then:

we will not adjust the conversion rate pursuant to the bullet points above until the earliest of these triggering events occurs; and

we will readjust the conversion rate to the extent any of these rights, options, or warrants are not exercised before they expire.

The indenture does not require us to adjust the conversion rate for any of the transactions described in the bullet points above if we make provision for holders of the 2005 Notes to participate in the transaction without conversion on a basis and with notice that our Board of Directors determines in good faith to be fair and appropriate, as provided in the indenture. The indenture also does not require us to make any adjustments to the conversion rate for any dividends or distributions solely on our preferred stock.

We will not adjust the conversion rate pursuant to the bullet points above unless the adjustment would result in a change of at least 1% in the then effective conversion rate. However, we will carry forward any adjustment that we would otherwise have to make and take that adjustment into account in any subsequent adjustment.

To the extent permitted by law and the continued listing requirements of The NASDAQ Capital Market, we may, from time to time, increase the conversion rate by any amount for a period of at least 20 days or any longer period permitted by law, so long as the increase is irrevocable during that period and our Board of Directors determines that the increase is in our best interests. In addition, we may also increase the conversion rate as we determine to be advisable in order to avoid or diminish any income taxes to holders of our common stock resulting from certain distributions.

On conversion, the holders of the 2005 Notes will receive, in addition to shares of our common stock and any cash for fractional shares, the rights under any future stockholder rights plan (i.e., a poison pill) we may establish, whether or not the rights are separated from our common stock prior to conversion. A distribution of rights pursuant to such a stockholder rights plan will not trigger a conversion rate adjustment so long as we have made proper provision to provide that holders will receive such rights upon conversion in accordance with the terms of the indenture.

The 2005 Notes surrendered for conversion in connection with certain fundamental changes, as defined, that occur before February 1, 2012 may in certain circumstances be entitled to an increase in the conversion rate per $1,000 principal amount of the 2005 Notes.

A fundamental change generally will be deemed to occur upon the occurrence of a change in control or a termination of trading.

A change in control generally will be deemed to occur at such time as:

any person or group (as these terms are used for purposes of Sections 13(d) and 14(d) of the Securities Exchange Act of 1934 (the Securities Exchange Act) other than us, any of our subsidiaries, or any of our employee benefit plans, is or becomes the beneficial owner (as that term is used in

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Rule13d-3 under the Securities Exchange Act), directly or indirectly, of 50% or more of the total voting power of all classes of our capital stock entitled to vote generally in the election of directors (voting stock);

there occurs a sale, transfer, lease, conveyance, or other disposition of all or substantially all of our property or assets to any person or group (as those terms are used in Sections 13(d) and 14(d) of the Securities Exchange Act), including any group acting for the purpose of acquiring, holding, voting, or disposing of securities within the meaning of Rule 13d-5(b)(1) under the Securities Exchange Act;

we consolidate with, or merge with or into, another person or any person consolidates with, or merges with or into, us, unless either: (i) the persons that beneficially owned, directly or indirectly, the shares of our voting stock immediately prior to such consolidation or merger, beneficially own, directly or indirectly, immediately after such consolidation or merger, shares of the surviving or continuing corporation s voting stock representing at least a majority of the total voting power of all outstanding classes of voting stock of the surviving or continuing corporation in substantially the same proportion as such ownership immediately prior to the transaction; or

(ii) both of the following conditions are satisfied:

at least 90% of the consideration (other than cash payments for fractional shares or pursuant to statutory appraisal rights) in such consolidation or merger consists of common stock and any associated rights traded on a U.S. national securities exchange or quoted on The NASDAQ Global Market (or which will be so traded or quoted when issued or exchanged in connection with such consolidation or merger); and

as a result of such consolidation or merger, the 2005 Notes become convertible solely into such common stock, associated rights, and cash for fractional shares;

the following persons cease for any reason to constitute a majority of our Board of Directors: (i) individuals who on the first issue date of the 2005 Notes constituted our Board of Directors; and

(ii) any new directors whose election to our Board of Directors or whose nomination for election by our stockholders was approved by at least a majority of our directors then still in office either who were directors on such first issue date of the 2005 Notes or whose election or nomination for election was previously so approved; or

we are liquidated or dissolved or holders of our capital stock approve any plan or proposal for our liquidation or dissolution.

A termination of trading is deemed to occur if our common stock (or other common stock into which the 2005 Notes are then convertible) is neither listed for trading on a U.S. national securities exchange nor approved for trading on an established automated over-the-counter trading market in the United States.

If:

a fundamental change, as described under the first, second, or third bullet point of the description of change in control occurs before February 1, 2012; and

at least 10% of the consideration (excluding cash payments for fractional shares or pursuant to statutory appraisal rights) for our common stock in the fundamental change consists of any combination of cash or securities (or other property) that are not traded on a U.S. national securities exchange or quoted on The NASDAQ Global Market (and are not scheduled to be so traded or quoted immediately after the fundamental change), then we will increase the conversion rate applicable to the 2005 Notes that are surrendered for conversion at any time from, and including, the 15th business day

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before the date we originally announce as the anticipated effective date of the fundamental change until, and including, the 15th business day after the actual effective date of the fundamental change.

We refer to such a fundamental change as a make-whole fundamental change. However, if the make-whole fundamental change is a public acquirer fundamental change, as described below, then, in lieu of increasing the conversion rate as described above, we may elect to change the conversion right in the manner described below.

If a holder surrenders a note for conversion in connection with a make-whole fundamental change we have announced, but the make-whole fundamental change is not consummated, the holder will not be entitled to any increased conversion rate in connection with the conversion.

In connection with a make-whole fundamental change, we will increase the conversion rate, based on the date when the make-whole fundamental change becomes effective, which we refer to as the effective date, and the applicable price. If the consideration (excluding cash payments for fractional shares or pursuant to statutory appraisal rights) for our common stock in the make-whole fundamental change consists solely of cash, then the applicable price will be the cash amount paid per share of our common stock in the make-whole fundamental change. Otherwise, the applicable price will be the average of the closing sale prices (as defined in the indenture) per share of our common stock for the five consecutive trading days immediately preceding the effective date. Our Board of Directors will make appropriate adjustments, in its good faith determination, to account for any adjustment to the conversion rate that becomes effective, or any event requiring an adjustment to the conversion rate where the ex date of the event occurs, at any time during those five consecutive trading days.

If an event occurs that requires an adjustment to the conversion rate, we will, on the date we must adjust the conversion rate, adjust each applicable price by multiplying the applicable price in effect immediately before the adjustment by a fraction:

whose numerator is the conversion rate in effect immediately before the adjustment; and

whose denominator is the adjusted conversion rate.

In addition, we will adjust the number of additional shares in accordance with a table in the indenture, based on the price per share of our common stock, and the timing of a fundamental change. As of December 31, 2009, the Company could issue between 0 and 35.06 additional shares per $1,000 principal amount of the 2005 Notes (representing up to 1,980,000 additional shares) in the event of a fundamental change. The number of additional shares is based on a closing sale price of $8.97 per share of our common stock on January 19, 2005 and certain pricing assumptions. If the actual applicable price is greater than $52.50 per share (subject to adjustment) or less than $8.97 per share (subject to adjustment), we will not increase the conversion rate.

However, certain continued listing standards of The NASDAQ Capital Market potentially limit the amount by which we may increase the conversion rate. These standards generally require us to obtain the approval of our stockholders before entering into certain transactions that potentially result in the issuance of 20% or more of our outstanding common stock. Accordingly, we will not increase the conversion rate as described above beyond the maximum level permitted by these continued listing standards. We will make any such reduction in the increase to the conversion rate in good faith and, to the extent practical, pro rata in accordance with the principal amount of the 2005 Notes surrendered for conversion in connection with the make-whole fundamental change. In accordance with these listing standards, these restrictions will apply at any time when the 2005 Notes are outstanding, regardless of whether we then have a class of securities quoted on The NASDAQ Capital Market.

If the make-whole fundamental change is a public acquirer fundamental change, as described below, then we may elect to change the conversion right in lieu of increasing the conversion rate applicable to the 2005 Notes that are converted in connection with that public acquirer fundamental change. If we make this election, then we will adjust the conversion rate and our related conversion obligation such that, from and after the effective time

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of the public acquirer fundamental change, the right to convert a note into shares of our common stock will be changed into a right to convert it into shares of public acquirer common stock, as described below, at a conversion rate equal to the conversion rate in effect immediately before the effective time multiplied by a fraction:

whose numerator is:

(i) if the public acquirer fundamental change is a share exchange, consolidation, merger, or binding share exchange pursuant to which our common stock is converted into cash, securities, or other property, the fair market value (as determined in good faith by our Board of Directors), as of the effective time of the public acquirer fundamental change, of the cash, securities, and other property paid or payable per share of our common stock; or

(ii) in the case of any other public acquirer fundamental change, the average of the closing sale prices (as defined in the indenture) per share of our common stock for the five consecutive trading days before, and excluding, the effective date of the public acquirer fundamental change (subject to certain adjustments to be made in good faith by our Board of Directors); and

whose denominator is the average of the last reported sale prices per share of the public acquirer common stock for the five consecutive trading days commencing on, and including, the trading day immediately after the effective date of the public acquirer fundamental change (subject to certain adjustments to be made in good faith by our Board of Directors).

If we elect to change the conversion right as described above, the change in the conversion right will apply to all holders from and after the effective time of the public acquirer fundamental change, and not just those holders, if any, that convert their 2005 Notes in connection with the public acquirer fundamental change.

A public acquirer fundamental change generally means an acquisition of us pursuant to a change of control described in the first, second, or third bullet point under the description of change in control (see above) where the acquirer (or any entity that is a direct or indirect wholly-owned subsidiary of the acquirer) has a class of common stock that is traded on a national securities exchange or quoted on The NASDAQ Capital Market or that will be so traded or quoted when issued or exchanged in connection with the change in control. We refer to such common stock as the public acquirer common stock.

On or after February 1, 2012, we may redeem the 2005 Notes for cash, at a redemption price equal to 100% of the principal amount of the 2005 Notes, plus any accrued and unpaid interest. On each of February 1, 2012, February 1, 2015 and February 1, 2020, holders may require us to purchase their 2005 Notes for cash equal to 100% of the principal amount of the 2005 Notes, plus any accrued and unpaid interest. Holders may also require us to repurchase their 2005 Notes upon a fundamental change, as defined above, at a repurchase price, in cash, equal to 100% of the principal amount of the 2005 Notes to be repurchased, plus any accrued and unpaid interest. The 2005 Notes are senior unsecured obligations of Antigenics and rank equally with all of our existing and future senior unsecured indebtedness. The 2005 Notes are effectively subordinated to all of our existing and future secured indebtedness and all existing and future liabilities of our subsidiaries. The 2005 Notes do not contain any financial covenants and do not limit our ability to incur additional indebtedness, including senior or secured indebtedness, issue securities, pay dividends, or repurchase our securities.

As of January 1, 2009, we adopted revised guidance that addressed certain matters applicable to convertible debt instruments and retrospectively applied this change in accounting to all prior periods presented for which we had applicable outstanding convertible debt, as required by this new guidance. Under this new method of accounting, the debt and equity components of our 2005 Notes and our 2006 Notes are bifurcated and accounted for separately based on the fair value and related interest rate of a non-convertible debt security with the same terms. The fair value of a non-convertible debt instrument at the original issuance dates of our 2005 Notes and our 2006 Notes was determined to be $42.6 million and $23.6 million, respectively. The equity (conversion options) components of our convertible debt securities have been included in additional paid-in capital on our

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consolidated balance sheet and, accordingly, the initial carrying value of the debt securities was reduced by $8.8 million. Our previously reported net loss for the years ended December 31, 2008 and 2007 was increased by $2.1 million and $1.1 million, respectively, primarily due to recognizing the accretion of the reduced carrying values of our convertible debt securities to their face amount as additional non-cash interest expense. The adoption of this accounting standard has resulted in a reduction in the carrying value of our convertible debt by approximately $3.7 million as of December 31, 2008. In addition, our deferred debt issuance costs were reduced by $294,000 as we were required to allocate an amount related to the conversion option to equity.

As a result of the adoption of revised guidance as of January 1, 2009, the conversion feature embedded in our 2006 Notes is now treated as a derivative and recorded at its fair value, with period to period changes in the fair value recorded as a gain or loss in our consolidated statement of operations. Accordingly, upon adoption we recorded a reduction to additional paid-in capital of $1.4 million, an increase to debt discount of $1.3 million, a derivative liability of $2.7 million, and a charge to opening accumulated deficit of $21,000. As of December 31, 2009 and 2008, our debt discount balance was $2.5 million and $3.7 million, respectively. For the year ended December 31, 2009, we have recorded a charge to other income of $48,000 due to changes in the fair value of the derivative and noncash interest expense of $1.3 million due to the adoption of this revised guidance.

Other

At December 31, 2009, approximately $146,000 of debentures we assumed in our merger with Aquila Biopharmaceuticals are outstanding. These debentures carry interest at 7% and are callable by the holders. Accordingly they are classified as part of the current portion of long-term debt.

(15) Fair Value Measurements

We measure fair value based on a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company s assumptions about the inputs that market participants would use in pricing the asset or liability and are developed based on the best information available in the circumstances. The fair value hierarchy is broken down into three levels based on the source of inputs as follows:

Level 1 Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access;

Level 2 Valuations based on quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active and models for which all significant inputs are observable, either directly or indirectly; and

Level 3 Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

The availability of observable inputs can vary among the various types of financial assets and liabilities. To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, for financial statement disclosure purposes, the level in the fair value hierarchy within which the fair value measurement is categorized is based on the lowest level input that is significant to the overall fair value measurement.

We measure our short-term investments and derivative liability at fair value. Our short-term investments are comprised of U.S. Treasury securities that are valued using quoted market prices with no valuation adjustments

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applied. Accordingly, these securities are categorized in Level 1. Our derivative liability is classified within Level 3 because it is valued using a modified Black-Scholes model. Certain inputs into this model were valued using a combination of income and market approaches which are unobservable in the market and are significant.

The estimated fair values of all of our financial instruments, excluding long-term debt, approximate their carrying amounts in the consolidated balance sheets. The fair value of our long-term debt was derived by evaluating the nature and terms of each note and considering the prevailing economic and market conditions at the balance sheet date.

Assets and liabilities measured at fair value are summarized below (in thousands):

Description	December 31, 2009	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Unobservable Inputs (Level 3)
Assets:			
Short-term investments	$ 9,998	$ 9,998	
Liabilities:			
Derivative Liability	$ 2,665		$ 2,665

The following table presents our liabilities measured at fair value using significant unobservable inputs (Level 3), as of December 31, 2009 (amounts in thousands):

Balance, December 31, 2008	$
Cumulative effect of change in accounting principle adoption of EITF Issue No. 07-5 (contained in ASC 815-40)	2,713
Decrease in fair value for the year ended December 31, 2009	(48)
Balance, December 31, 2009	$ 2,665

The decrease in fair value of the derivative liability is included in non-operating expense in our consolidated statement of operations for the year ended December 31, 2009.

As of December 31, 2009, $20.0 million in principal of the 2005 Notes are outstanding with an estimated fair value of $14.9 million based on recent market transactions. As of December 31, 2009, $32.1 million in principal of the 2006 Notes are outstanding with a fair value of the debt portion exclusive of the conversion option estimated to be $28.7 million based on a present value methodology.

(16) Contingencies

Antigenics, our Chairman and Chief Executive Officer, Garo H. Armen, Ph.D., and two investment banking firms that served as underwriters in our initial public offering have been named as defendants in a federal civil class action lawsuit pending in the United States District Court for the Southern District of New York. Substantially similar actions were filed concerning the initial public offerings for more than 300 different issuers, and the cases were coordinated as *In re Initial Public Offering Securities Litigation*, 21 MC 92 for pre-trial purposes. The suit alleges that the brokerage arms of the investment banking firms charged secret excessive commissions to certain of their customers in return for allocations of our stock in the offering. The suit also alleges that shares of our stock were allocated to certain of the investment banking firms customers based upon agreements by such customers to purchase additional shares of our stock in the secondary market. Dr. Armen has been dismissed without prejudice from the lawsuit pursuant to a stipulation. In June 2004, a stipulation of settlement and release of claims against the issuer defendants, including us, was submitted to the Court for approval. The Court preliminarily approved the settlement in August 2005. In December 2006, the appellate court overturned the certification of classes in six test cases that were selected by the underwriter defendants and plaintiffs in the coordinated proceedings. Class certification had been one of the conditions of the settlement. Accordingly, on June 25, 2007, the Court entered an order terminating the proposed settlement based on a

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stipulation among the parties to the settlement. Plaintiffs filed amended master allegations and amended complaints and moved for class certification in the six test cases, which the defendants in those cases have opposed. On March 26, 2008, the Court largely denied the defendants motion to dismiss the amended complaints. The parties have reached a global settlement of the litigation. Under the settlement, the insurers will pay the full amount of settlement share allocated to the defendants, and the defendants will bear no financial liability. The company defendants, as well as the officer and director defendants who were previously dismissed from the action pursuant to tolling agreements, will receive complete dismissals from the case. On October 5, 2009, the Court entered an order granting final approval of the settlement. Certain objectors have appealed the Court s October 5, 2009 order. If for any reason the settlement does not become effective, we believe we have meritorious defenses to the claims and intend to defend the action vigorously. No accrual has been recorded at December 31, 2009 for this action.

We may currently be, or may become a party, to other legal proceedings as well. While we currently believe that the ultimate outcome of any of these proceedings will not have a material adverse effect on our financial position, results of operations, or liquidity, litigation is subject to inherent uncertainty. Furthermore, litigation consumes both cash and management attention.

(17) 401(k) Plan

We sponsor a defined contribution 401(k) savings plan for all eligible employees, as defined. Participants may contribute up to 60% of their compensation, as defined in the savings plan, with a maximum contribution of $16,500 for individuals under 50 years old and $22,000 for individuals 50 years old and older in 2009. Each participant is fully vested in his or her contributions and related earnings and losses. The Company matched 50% of the participant s contribution, subject to a maximum of 6% of compensation through February 2009. Such matching contributions vest over four years. For the years ended December 31, 2009, 2008, and 2007, we expensed $37,000, $163,000, and $176,000, respectively, for the Company s contributions to the 401(k) plan.

(18) Restructuring Costs

On February 2, 2009, we initiated a plan of restructuring that resulted in a reduction of our workforce by approximately 20%, or 19 positions. We engaged in this workforce reduction in order to reduce operating expenses in light of market conditions and to focus our resources on near-term commercial opportunities. This restructuring action resulted in total charges of approximately $177,000 in severance and outplacement expenses in the quarter ended March 31, 2009, with $42,000 included in research and development expenses and $135,000 included in general and administrative expenses in our consolidated statement of operations. The charge to operations was reduced by $10,000 during the quarter ended June 30, 2009 based on actual activities. A summary of these costs is as follows (in thousands):

	Liability at December 31, 2008	Charge to Operations	Amounts Paid	Liability at December 31, 2009
Severance	$	$ 150	$ (150)	$
Outplacement		17	(17)	
Total	$	$ 167		