ANTIGENICS INC /DE/
Form 10-K
March 16, 2009
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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, 2008

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 Global 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 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, 2008 was: $100,400,246. There were 66,785,617 shares of the registrant s Common Stock outstanding as of March 1, 2009.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement for the registrant s 2009 Annual Meeting of Stockholders scheduled to be held on June 10, 2009, 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, 2008, 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 contains forward-looking statements. Generally, these statements can be identified by the use of terms like believe, expect, anticipate, plan, may, will, could, estimate, potential, opportunity, future, project, and similar terms.

Forward-looking statements include, but are not limited to, statements about generating sales from Oncophage in Russia, generating royalty revenue from QS-21 in the 2010 timeframe, our plans or timelines for performing and completing research, preclinical studies and clinical trials, timelines for releasing data from clinical trials, plans or timelines for initiating new clinical trials, expectations regarding research, preclinical studies, clinical trials, and regulatory processes (including additional clinical studies for Oncophage in renal cell carcinoma), expectations regarding test results, future product research and development activities, the expected effectiveness of therapeutic drugs, vaccines, and combinations in treating diseases, applicability of our heat shock protein technology to multiple cancers and infectious diseases, competitive position, plans for regulatory filings and meetings with regulatory authorities (including potential requests for meetings with the U.S. Food and Drug Administration regarding Oncophage clinical studies and seeking conditional authorization of Oncophage in Europe and approvals for Oncophage in other markets outside the United States), the sufficiency of our clinical trials in renal cell carcinoma and melanoma, or subgroup analyses of data from these trials, to support a biologics license application or foreign marketing application for product approval, possible receipt of future regulatory approvals, the performance of collaborative partners in, and revenue expectations from, our strategic license and partnering collaborations, expected liquidity and cash needs, plans to commence, accelerate, decelerate, postpone, discontinue, or resume clinical programs, the rate of our net cash burn (defined as cash used in operating activities plus capital expenditures, debt repayments, and dividend payments), plans for commercial launch, and sales and marketing activities in Russia, implementation of corporate strategy, increased foreign currency exposure when we commercialize in Russia, and future financial performance.

These forward-looking statements involve a number of risks and uncertainties that could cause actual results to differ materially from those suggested by the forward-looking statements. These risks and uncertainties include, among others, that clinical trials may not demonstrate that our products are safe and more effective than current standards of care; that the subgroup analyses of our Oncophage clinical trials do not predict survival or efficacy of the product in future studies or use of Oncophage; that we may be unable to obtain sufficient funding or the regulatory authorization necessary to conduct additional clinical trials; that we may not be able to enroll sufficient numbers of patients in our clinical trials; that we may be unable to obtain the regulatory review or approval necessary to commercialize our product candidates because regulatory agencies are not satisfied with our trial protocols or the results of our trials; that we may fail to adequately protect our intellectual property or that it is determined that we infringe on the intellectual property of others; our strategic licenses and partnering collaborations may not meet expectations; that we or our business partners may fail to take all steps necessary for the successful commercial launch of Oncophage in Russia; that we may not be able to secure adequate reimbursement mechanisms and/or private-pay for Oncophage in Russia; manufacturing problems may cause product development and launch delays and unanticipated costs; our ability to raise additional capital; our ability to attract and retain key employees; changes in financial markets, regulatory requirements, and geopolitical developments; the solvency of counterparties under material agreements, including subleases; and general real estate risks.

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 and under review by the European Medicines Agency for the treatment of kidney cancer patients with earlier-stage disease. 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 a Phase 2 clinical trial in recurrent 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 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 for the treatment of genital herpes, and (3) Aroplatin, a liposomal chemotherapeutic for the treatment of solid malignancies and B-cell lymphomas. Our business activities have included product research and development, intellectual property prosecution, manufacturing therapeutic vaccines for clinical trials, 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 Global Market under the symbol AGEN.

On November 20, 2008, we were notified by the Listing Qualifications Staff of The NASDAQ Stock Market LLC (NASDAQ) that our common stock was subject to delisting from The NASDAQ Global Market based upon our failure to satisfy the $50.0 million minimum market value of listed securities requirement for the previous ten consecutive trading days (pursuant to Rule 4450(b)(1)(A) of the NASDAQ Marketplace Rules). We were granted a thirty calendar-day period to regain compliance with the requirement, and on December 23, 2008, we were notified by NASDAQ that we did not regain compliance. NASDAQ indicated that our common stock was subject to delisting unless the Company requested a hearing before a NASDAQ Listing Qualifications Panel (the Panel). We had the hearing at which we presented a plan for regaining compliance with the NASDAQ Marketplace Rules. We are awaiting the Panel s decision. Our shares will continue to be listed on The NASDAQ Global Market pending the issuance of the Panel s decision. There can be no assurance that the Panel will grant our request, or that we will meet the requirements for continued listing on The NASDAQ Global Market or The NASDAQ Capital Market.

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 current market conditions and to focus our resources on near-term commercial opportunities. We estimate that we will incur roughly $200,000 in severance and outplacement expenses related to this restructuring in the quarter ending March 31, 2009. All of these expenses will result in future cash outlays, most of which will be paid by March 31, 2009.

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 a Phase 2 clinical trial in recurrent glioma. It is currently registered for use in Russia for the

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treatment of kidney cancer patients at intermediate risk for disease recurrence. We have also submitted a marketing authorization application to the European Medicines Agency requesting approval for Oncophage in earlier-stage, localized kidney cancer under the conditional authorization provision. Oncophage has Orphan Drug status for renal cell carcinoma and glioma from the European Medicines Agency. Oncophage has also received Orphan Drug designation from the 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.

QS-21 is an investigational adjuvant being studied by our collaborative partners 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 Elan Corporation, plc, through its affiliate Elan Pharmaceuticals International Limited (Elan). 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 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. Results of the analysis of immune responses are expected in the first half of 2009. Further work on this program is on hold due to cost containment efforts.

Aroplatin is a novel liposomal third-generation platinum chemotherapeutic that has been studied by Antigenics 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. 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.

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 Aroplatin and/or AG-707.

For the years ended December 31, 2008, 2007, and 2006, our research and development costs were approximately $20.7 million, $21.8 million, and $28.6 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

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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 extracellularly, meaning 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. Extracellular 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, the intracellular and extracellular 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 vaccines are patient-specific, consisting of HSPs purified from a patient s tumor cells, to which remain bound, or complexed, the broad array of peptides that characterize the patient s tumor. These heat shock protein-peptide complexes, also known as 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

Below is a table showing the clinical trials completed or ongoing in our product portfolio.

PRODUCT PIPELINE		Phase 1	Phase 2	Phase 3
Oncophage	Renal cell carcinoma (e)(f)			•
	Metastatic melanoma			•
	Glioma (a)(c)(d)		•	
	Colorectal cancer		•	
	Non-Hodgkin s lymphoma		•	
	Gastric cancer (a)		•	
	Metastatic renal cell carcinoma (b)		•	
	Lung cancer		•	
	Metastatic melanoma (a)		•	
	Pancreatic cancer	•		
Aroplatin	Colorectal cancer		•	
	Solid malignancies/Non-Hodgkin s lymphoma	•		
	Solid malignancies	•		
AG-707	Genital herpes	•		

(a) Phase 1/2 trials.
(b) Includes two separate Phase 1/2 and Phase 2 trials.

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(c) Trial is ongoing.
(d) Investigator-sponsored trial.
(e) Approved for use in Russia for the treatment of kidney cancer patients at intermediate risk for disease recurrence.
(f) A registry to monitor patient survival is on-going.

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. Additionally, we have submitted a marketing authorization application to the European Medicines Agency requesting approval for Oncophage in earlier-stage, localized kidney cancer under the conditional authorization provision. 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 a Phase 2 clinical trial in recurrent 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 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 (C-100-03)	1/2	38	TTP: 2.9 m OS: 15 m	1 complete response 2 partial responses 9 disease stabilizations 1 patient alive at >5 y
Metastatic renal cell carcinoma (C-100-07)	2	72	OS: 16 m	Of 58 evaluable patients: 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 (C-100-06)	1/2	45	OS: 1.3 y	1 complete response 9 disease stabilizations 3 patients alive at 4 y 1 patient alive at 4.7 y
Locally advanced/metastatic melanoma (C-100-02)	1/2	36	OS: 2.1 y	1 patient alive at 6 y 10 patients alive at 5 y
Recurrent, high-grade glioma (C-100-34) *Investigator-reported data*	1/2	12	OS: 10.5 m (from time of recurrence)	Phase 1 portion of study completed: 12 patients demonstrated significant tumor-specific immune response 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

Background. Renal cell carcinoma is the most common type of kidney cancer. The American Cancer Society estimated that there would be 54,390 new cases of kidney cancer and about 13,010 people would die from the disease in the United States in 2008. GLOBOCAN, a database developed by the World Health Organization s International Agency for Research on Cancer, estimates that there were 58,747 new cases of kidney cancer in the European Union and 16,329 new cases in Russia in 2002. 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 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. The analysis showed that there was no statistically significant difference between the two arms in the intent-to-treat population of 728 patients for recurrence free survival; however, the results did show a slight trend in favor of Oncophage.

We conducted in-depth analyses of data from part I of our Phase 3 study of Oncophage in renal cell carcinoma during April and May 2006 and discussed the results separately with the FDA and a panel of experts in this medical field. On June 7, 2006, we announced the findings of an analysis that showed significant improvement (nominal, two-sided *P* value of 0.018 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. The subgroup consisted of 361 patients, or 60% of the 604 patients in the full analysis set (FAS) population. As defined by FDA-issued guidance, the FAS is the set of subjects that is as close as possible to the ideal implied by the intention-to-treat principle. In this case, patients with baseline disease, who were not eligible for the trial per protocol, were excluded from the FAS population.

We continued to collect data per the protocol through March 2007, and on May 21, 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 two 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* value of less than 0.01 and hazard ratio of 0.55). In addition, updated analysis in this group of intermediate risk patients revealed a trend toward improved OS, the study s secondary endpoint. The positive OS trend observed

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appeared to correlate with the RFS improvement demonstrated in previous analyses. The results announced in June 2006 reported that a total of 361 patients in the subgroup were defined as having intermediate risk for recurrence of disease. In subsequent follow-up, one patient was recategorized, resulting in an increase in the total number of patients from 361 to 362 in the later analysis.

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. The results of the trial were recently 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, which is expected to provide additional data on the effectiveness of Oncophage, will follow patients for 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. In addition to the patient registry, we are in the early initiation phase of a small study in non-metastatic renal cell carcinoma that measures immunological response in the intermediate risk patient population. The results of this study and continued data collection and our ongoing analysis are uncertain, and may negatively affect or not 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.

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. Furthermore, this trial ultimately may not be sufficient to support approval in additional countries.

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. 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 September 2008, the FDA granted the necessary permission to allow for the export of Oncophage from the United States for patient administration in Russia. Before we are able to launch the sale of Oncophage in Russia, we or our distributors must also obtain import and export approvals from the Russian authorities, as well as complete a number of post approval activities. In addition, 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.

The amount of revenue generated 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. We will rely heavily on private-pay for the foreseeable future and the ability and willingness of patients to pay is unclear. Because we have limited resources and minimal sales and marketing experience, commercial launch of Oncophage may be slow.

In October 2008, we announced the submission of a marketing authorization application to the European Medicines Agency requesting conditional authorization of Oncophage in earlier-stage, localized kidney cancer.

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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. Products that have orphan designation in the European Union can also qualify for conditional authorization. Specifically, 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. Products receiving conditional authorization are required to undergo annual regulatory evaluation and renewal until all commitments are fulfilled. Currently, there are no European Medicines Agency-approved drug therapies for this patient population. The marketing authorization application is undergoing review through the Centralized Procedure, which means that an approval, if granted, would apply to all current 27 European Union countries plus Norway and Iceland. Until we receive an official decision from the European Medicines Agency, we cannot be certain of the outcome.

In addition, we are exploring the steps necessary to seek approval of Oncophage in other markets. 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 approvals, and/or named patient programs.

Melanoma

Background. 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 about 62,480 new cases of melanoma in the United States in 2008 and that the disease would kill approximately 8,420 people in 2008. 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, 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. 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

Background. 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 21,810 new cases of the brain and other nervous system cancers would be diagnosed during 2008 in the United States, and that about 11,780 people would die from these tumors.

A Phase 1/2 clinical trial in recurrent, high-grade glioma is currently our lead ongoing clinical trial. This study is being lead by the Brain Tumor Research Center at the University of California, San Francisco, with

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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, showed that 11 out of 12 patients exceeded the historical median benchmark of 6.5 months survival from time of recurrence and that median overall survival was 10.5 months. 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 the Phase 2 portion, which is designed to enroll 30 patients.

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. As of December 31, 2008, we had seven employees in our manufacturing department.

After manufacturing, Oncophage is tested and released by our quality systems staff. The quality control organization, consisting of seven employees as of December 31, 2008, performs a series of release assays designed to ensure that the product meets all applicable specifications. Our quality assurance staff, consisting of eight employees as of December 31, 2008, 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 10,000 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 for use in vaccines to treat a variety of human diseases. Companies with QS-21 programs include GSK and Elan. In return for rights to use QS-21, these companies have generally agreed to pay us license fees, manufacturing payments, milestone

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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 the GSK license agreement and the GSK supply agreement 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. Accordingly, from the effective date of the 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. Also, in accordance with the terms of the letter, 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. 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 a Phase 3 study evaluating its investigational MAGE-A3 Antigen-Specific Cancer Immunotherapeutic containing QS-21 in non-small cell lung cancer. GSK and its research partners have also released data from Phase 2 studies of its malaria vaccine candidate in African infants and young children. GSK has indicated that it intends to proceed into late stage trials of what could be the first malaria vaccine for infants and young children in Africa. We will receive royalties on net sales for a period of at least 10 years after the first commercial sale under the GSK supply agreement.

Elan. Elan has a commercial license for the use of QS-21 in research and commercialization of products. Under the terms of the agreement, we are entitled to receive future milestone payments and product royalties in the event of the successful development of Elan s Alzheimer s disease vaccine that contains QS-21. In 2007, Elan initiated a Phase 2 study of their vaccine. Pursuant to the terms of the supply agreement between the parties, we (directly or through a third-party manufacturer) are Elan s exclusive supplier of QS-21.

Manufacturing

Except in the case of GSK, 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 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

Introduction

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

Background

The U.S. Centers for Disease Control and Prevention estimated in surveys from 1997 that about one in five people in the United States ages 12 or older is infected with HSV-2. The World Health Organization estimated in 1995 that approximately 21 million people worldwide are infected each year. Genital herpes is currently treated with palliative topical drugs or antiviral agents that reduce further replication of the virus during the period of treatment.

Clinical Trials

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

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2005, we initiated a multicenter Phase 1 clinical trial of AG-707 in genital herpes. This trial is now closed, with analysis of immune responses from this study ongoing, and results are expected in the first half of 2009. Further work on this program is on hold due to cost containment efforts.

Aroplatin

Introduction

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 tumors 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.

Clinical Trials

In 2002, we initiated a Phase 2 trial with Aroplatin for advanced colorectal cancer unresponsive to medical treatment. This single-arm, open-label trial, conducted at the Arizona Cancer Center, was designed to evaluate the effect of Aroplatin alone in patients whose disease is not responsive to standard first-line cancer treatments (5-fluorouracil/leucovorin or capecitabine and irinotecan). In September 2003, the investigators presented findings from this trial at the European Cancer Conference, also known as ECCO. One out of the 15 evaluable patients demonstrated a partial clinical response and two experienced disease stabilization. Researchers observed that Aroplatin appeared well tolerated in this pretreated patient population. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. This trial is completed.

In January 2003, we also initiated at the John Wayne Cancer Center, in Santa Monica, California, a Phase 1/2 trial of Aroplatin for a variety of advanced solid malignancies amenable to platinum therapy. The final study data demonstrated that out of the 15 evaluable patients, 14 were reported with disease progression at the first evaluation for disease status after the first treatment with Aroplatin, and one patient demonstrated stabilization of disease with subsequent disease progression after two months. The median time to progression was 66 days with a minimum of 49 days and a maximum of 105 days. This study is completed.

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 closed. We have reviewed the results from this trial with our medical advisors and we would consider licensing and/or co-development opportunities to advance the product. Further work on this program is on hold due to cost containment efforts.

Preclinical Activities

We are investigating novel reagents for extraction of heat shock proteins from tumor tissues, as an approach for increasing vaccine yield from patient tumors and developing methods that will potentially allow manufacture of vaccine from smaller tumors. We also continue to evaluate the significance of the structure of the principal component of Oncophage for biological activity and mode of action. In preparation for potential future clinical trials, we are developing methods that will assess the intensity of immunological responses following vaccination with Oncophage. We expect to continue these investigations during 2009.

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Intellectual Property Portfolio

We seek to protect our core technologies through a combination of patents, trade secrets and know-how. We currently have exclusive rights to 75 issued United States patents and 100 foreign patents. We also have exclusive rights to 17 pending United States patent applications and 82 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 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) HSPs for treatment of autoimmune disorders; (iv) saponin adjuvants such as QS-21; and (v) liposomal drugs, including Aroplatin. In addition, several patents are related to technology based on HSP receptors. The following tables provide detailed information regarding the United States patents and patent applications relating to our product candidates and technologies and their uses. The tables encompass less than all of our 175 issued patents and 99 pending patent applications, because a substantial portion of our patent portfolio is directed to alternative and/or non-core technologies.

Products or Technologies	Oncophage	AG-707	HSPs in Autoimmune Disorders	HSP Receptors
Number of issued U.S. patents	13	10	1	3
Expiration range	2014 2022	2014 2022	2017	2022
Number of pending U.S. patent applications	3	1		
Number of issued foreign patents	20	1		
Expiration range	2015 2016	2015 2016		
Number of pending foreign patent applications	19	5		

We also have rights to 29 issued U.S. patents and five U.S. patent applications, 11 issued foreign patents and 45 foreign patent applications directed to various other HSP technologies.

Products or Technologies	QS-21	Aroplatin
Number of issued U.S. patents	4	5
Expiration range	2017 2019	2010 2020
Number of pending U.S. patent applications		5
Number of issued foreign patents	58	2
Expiration range	2012 2019	2010 2011
Number of pending foreign patent applications	7	3

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 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.

All of the above-noted patents and applications relating to QS-21 are owned by Antigenics. All of the above-noted U.S. and foreign patents relating to Aroplatin are licensed exclusively to us. We own U.S. and foreign patent applications relating to Aroplatin.

With the exception of five patent applications that we own outright, all of our heat shock protein patents and patent applications directed to Oncophage, AG-858, and AG-702/707 have been exclusively licensed to us by the following academic institutions:

Mount Sinai School of Medicine

In November 1994, we entered into a patent license agreement with the Mount Sinai School of Medicine. Through the Mount Sinai Agreement, we obtained an exclusive worldwide license to patent rights relating to the

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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.

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 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. 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 (2019) 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. As of December 31, 2008, we have paid approximately $160,000 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.

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Amendment Agreement

In March 2003, we entered into an amendment agreement that amended certain provisions of both the research agreement and the license agreement. The amendment agreement granted us a license to additional patent rights. In consideration for execution of the amendment agreement, we agreed to pay UConn an up front 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, 2008, we have paid approximately $100,000 to UConn under the license agreement, as amended.

With the exception of seven patent applications that we own outright, all of our Aroplatin patents have been exclusively licensed to us by the following corporation and institution:

Sumitomo Pharmaceuticals Co., Ltd.

In December 2000, Aronex Pharmaceuticals, Inc., a company we acquired in July 2001, entered into a license agreement with Sumitomo Pharmaceuticals Co., Ltd. In September 2003, this agreement was amended and restated with Antigenics. 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. Prior to our acquisition of Aronex Pharmaceuticals, Inc., Sumitomo received a $500,000 up-front 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. The license agreement does not contain any diligence provisions.

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.

It is worth noting that:

patent applications in the United States are currently maintained in secrecy until they are published, generally 18 months after they are first filed;

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patent applications in other countries, likewise, generally are not published until 18 months after they are first filed in those countries;

publication of technological developments in the scientific or patent literature often lags behind the date of these developments; and

searches of prior art may not reveal all relevant prior inventions.

In addition to our patents, we rely on our trade secrets and know-how to provide a competitive advantage, and we intend to continue to develop and protect this proprietary information. We take active measures to control access to know-how and trade secrets through confidentiality agreements, which we generally require all of our employees, consultants, and scientific collaborators to execute upon the commencement of an employment or consulting relationship with us. These agreements generally provide that all confidential information developed or made known to the individual by us during the course of the individual s relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees and consultants, the agreements generally provide that all inventions conceived by the individual in the course of rendering services to us are assigned to us and become our exclusive property.

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 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,

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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 FDA may, during its review of a new drug application or BLA, ask for additional test data. If the FDA does ultimately approve a product, it may require post-marketing testing, including potentially expensive Phase 4 studies, and extra surveillance to monitor the safety and effectiveness of the drug. In addition, the FDA may in some circumstances impose restrictions on the use of the drug that may be difficult and expensive to administer, and may require prior approval of promotional materials.

Before approving a new drug application or a BLA, the FDA may inspect the facilities at which the product is manufactured and will not approve the product unless the manufacturing facilities appear to be in compliance with cGMP. In order to accomplish this inspection, a local field division of the FDA is responsible for completing this inspection and providing a recommendation for or against approval. We are in communication with the field division of the FDA regarding our manufacturing facilities. This effort is intended to assure appropriate facility and process design to avoid potentially lengthy delays in product approvals due to inspection deficiencies.

Similarly, 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 GCP or GLP for specific non-clinical toxicology studies.

To assure such cGMP, GCP, and GLP compliance, the applicants must incur significant time, money, and effort in the area of training, record keeping, production, and quality control. Following approval, the manufacture, holding, and distribution of a product must continue to devote significant resources to maintain full compliance in these areas.

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.

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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, as in the case of Oncophage. 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 payors, 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.

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

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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, Oxford BioMedica and its partner Sanofi-Aventis, Nventa (formerly Stressgen), Accentia, and Cell Genesys. Patents have been issued in both the United States and Europe related to Nventa s heat shock protein technology.

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 GlaxoSmithKline. In addition, several companies, such as CSL Limited and Galenica, 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 28, 2009, we had approximately 80 employees, of whom 11 were Ph.D.s and four 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 contents of our website are not part of, or incorporated into, this document.

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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, 2008, we have generated net losses totaling $527.3 million. Our net losses for the years ended December 31, 2008, 2007, and 2006 were $28.7 million, $36.8 million, and $51.9 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.

On December 31, 2008, we had $34.5 million in cash, cash equivalents, and short-term investments. We believe, based on our current plans and activities, that our working capital resources at December 31, 2008, anticipated revenues, and the estimated proceeds from our license, supply, and collaborative agreements will be sufficient to satisfy our liquidity requirements into 2010. We expect to attempt to raise additional funds in advance of depleting our current funds. For the year ended December 31, 2008, our average monthly cash used in operating activities was $2.4 million. Capital expenditures for the year ended December 31, 2008 were $206,000. We do not anticipate significant capital expenditures during 2009.

As part of certain private placement agreements, we are required to maintain effective registration statements. Given that, upon our filing of this Annual Report on Form 10-K, we will cease to be eligible to register the resale of the shares from the private placements on Form S-3, we filed a post-effective amendment on Form S-1 to each of the resale registration statements private placements. Based on our discussions with the SEC, we expect the SEC to declare each of these post-effective amendments effective upon the filing of this Annual Report on Form 10-K or shortly thereafter. 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 $4.4 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.

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Many economists have indicated that the United States economy, and possibly the global economy, has entered into a prolonged recession as a result of the deterioration in the credit markets and related financial crisis, as well as a variety of other factors. While the ultimate outcome of these events cannot be predicted, they may have a material adverse effect on our liquidity and financial condition 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, 2008, our total long-term debt, excluding the current portion, was $67.8 million. Our 5.25% convertible senior notes due February 2025 do not restrict our ability or the ability of our subsidiaries to incur additional indebtedness, including debt that effectively ranks senior to the 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 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 note agreements include material restrictions on our incurrence of debt and liens while these notes are outstanding, as well as other customary covenants.

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 years ended December 31, 2008, 2007, and 2006, net cash used in operating activities was $28.9 million, $26.7 million, and $44.9 million, respectively. Excluding our 2006 Notes, which mature in 2011 and for which we may elect to pay the interest in cash or additional notes, at our option, and for which the outstanding balance at maturity may be paid in cash or in common stock, subject to certain limitations, and assuming no additional interest-bearing debt is incurred and none of our notes are converted, redeemed, repurchased, or exchanged, our interest payments will be $2.0 million annually during 2009 and thereafter until maturity.

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Several factors could delay or prevent the successful commercial launch 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, and the first approval of a patient-specific therapeutic cancer vaccine in a major market.

We or our distributors must also obtain import and export approvals from the Russian authorities, as well as complete a number of post-approval activities. In addition, 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 secure import and export approvals in Russia, 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 launch, the amount of revenue generated 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 reduce our launch efforts because the ability and willingness of patients to pay is unclear. In addition, cost-containment measures by third parties may prevent us from becoming profitable. Because 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.

Our approval to market Oncophage in Russia is limited to the treatment of kidney cancer patients at intermediate risk for disease recurrence, and is subject to regulatory requirements. If we fail to comply with these regulatory requirements in Russia or elsewhere, 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 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.

We face a risk of government enforcement actions in connection with our business and marketing activities.

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.

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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.

We may not be able to obtain approval to market Oncophage in countries other than Russia. Because we expect additional Phase 3 clinical trials of Oncophage may be required prior to submitting a BLA to the FDA for any indication, we likely will not commercialize Oncophage in the United States for several years, if ever. We may face similar hurdles in other territories where we may seek marketing approval.

Oncophage is currently only approved for marketing in Russia for the treatment of kidney cancer patients at intermediate risk for disease recurrence. In October 2008, we submitted a marketing authorization application to the European Medicines Agency 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. Products that have orphan designation in the European Union can also qualify for conditional authorization. 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. We believe that Oncophage in this indication meets the criteria for conditional authorization. Based on current limited precedence regarding the conditional authorization process, and as with any regulatory review of a marketing application, until we receive an official decision from the European Medicines Agency, we cannot be certain of the outcome. There is a high level of uncertainty regarding the probability and timing of a favorable outcome.

Additionally, and as resources allow, we continue to explore potential opportunities to seek product approval in other jurisdictions, including the U.S. and Canada. 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. Any additional studies may take years to complete and may fail to support regulatory filings for many reasons, including failure of the trials to demonstrate that Oncophage is safe and effective in the studies indications, failure to conduct the studies in compliance with the clinical trial protocols, failure to recruit patients, or the clinical and/or regulatory environment at the time. 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 European Medicines Agency, 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.

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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 commercial launch 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, combined with changes in Russian leadership, 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 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.

Regulatory reforms may create additional burdens that would cause us to incur additional costs and may adversely affect our ability to commercialize our products.

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.

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

It is not clear that public and private insurance programs will determine that Oncophage or our product candidates come within a category of items and services covered by their insurance plans. Generally, in Russia, Europe, and other countries outside the United States, government-sponsored health care systems pay a substantial share of health care costs, and they may regulate reimbursement levels of our products to control costs. Many patients will not be capable of paying for Oncophage by themselves. 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

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regarding the timing, scope, or availability of reimbursement in Russia for 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 launch efforts because the ability and willingness of patients to pay is unclear.

It is possible that there will be substantial delays in obtaining coverage of Oncophage or our product candidates, 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 Oncophage unaffordable, or limits on the payment amount, which could have a material adverse effect on sales of Oncophage or any of our product candidates that receive marketing approval. If we are unable to obtain or retain adequate levels of reimbursement from government or private health plans, our ability to sell Oncophage and our potential products will be adversely affected. We are unable to predict what impact any future regulation or third-party payer initiatives relating to reimbursement for Oncophage or any of our potential products, if any of them are approved for sale, will have on sales.

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 the commercial launch of Oncophage in Russia, and in the event we obtain conditional authorization of Oncophage in Europe, we 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.

For our patient-specific heat shock protein product candidates, 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, and/or selling and marketing expertise.

Our business may fail because we face intense competition from major pharmaceutical companies and specialized biotechnology companies engaged in the development of product candidates directed at cancer and infectious diseases. Several of these companies have products that utilize similar technologies and/or patient-specific medicine techniques, such as Dendreon, Oxford BioMedica and its partner Sanofi-Aventis, Nventa (formerly Stressgen), Accentia, and Cell Genesys. Patents have been issued in both the United States and Europe related to Nventa s heat shock protein technology.

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

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cell carcinoma, such as temsirolimus and bevacizumab, 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. Our product candidate, Aroplatin, may compete with existing approved chemotherapies or other chemotherapies that are in development by various companies, including GPC Biotech and Poniard Pharmaceuticals. 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 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.

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 GlaxoSmithKline. In addition, several companies, such as CSL Limited and Galenica, 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;
- 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 one of our product candidates or our licensees product candidates for which we maintain exclusive or primary manufacturing rights for a component nears marketing approval or is approved for sale, or if the Russian market for Oncophage is substantially greater than we anticipate, or if we obtain approval or conditional approval for Oncophage in another territory, we may be required to manufacture substantially more than we have been required to manufacture for preclinical studies and clinical trials. We have no experience manufacturing products in commercial quantities, and we can provide no assurance that we will be able to do so successfully. We may experience higher manufacturing failure rates than we have in the past if and when we attempt to substantially increase production volume.

We currently manufacture Oncophage in our Lexington, Massachusetts facility. We intend to use this facility to manufacture Oncophage for the Russian market, as well as for ongoing and future clinical trials. While we believe we will be able to cover both our commercial and clinical 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

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adversely affect our business. An unanticipated increase in the demand for the commercial supply of Oncophage could result in our inability to meet commercial demand or to manufacture sufficient Oncophage product to support our 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. Oncophage is a patient-specific biologic and requires product characterization steps that are more onerous than those required for most chemical pharmaceuticals. Accordingly, we employ multiple steps to attempt to control the manufacturing processes. Deviations in these manufacturing processes could result in production failures.

Currently, we can also manufacture other clinical product in our own manufacturing facility. This manufacturing facility has certain support areas that it shares with the Oncophage manufacturing areas. As we seek to expand the market opportunities for Oncophage, including possibly filing for approvals 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 AG-707 in our current facility. AG-707 is a complex product requiring Good Manufacturing Practices, or GMP, for the manufacture and release of a recombinant protein and a large number of peptides. In order to prepare additional AG-707 to support future clinical trials, we will have to manufacture or have manufactured these critical raw materials in a GMP compliant facility.

Currently, we do not manufacture QS-21 or Aroplatin in our own manufacturing facility. If we choose to manufacture QS-21 or Aroplatin 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. While we have previously relied on a third-party manufacturer to meet QS-21 supply demands, that supplier currently does not, and may never have the ability to manufacture commercial grade QS-21. Our ability to use GlaxoSmithKline as a supplier to meet our other QS-21 licensees needs is limited and not desirable to all of our QS-21 licensees. In order to continue to support QS-21 product candidates and Aroplatin development, apply for regulatory approvals, and commercialize these product candidates, we or our licensees or collaborators will need to develop, contract for, or otherwise arrange for the necessary manufacturing capabilities. There is no assurance that we or our licensees or collaborators will be successful in these endeavors. If we fail to comply with our obligations in our supply agreements with third parties, we could lose revenue streams that are important to our business.

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 operate under applicable GMP regulations 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.

Oncophage is a novel patient-specific therapeutic cancer vaccine, and as such, there are many challenges due to a lack of precedents. The FDA and foreign regulatory agencies, including the European Medicines Agency, 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 patient-specific oncology therapies due to their novelty. Therefore, Oncophage may experience a long regulatory review process and unforeseen additional development costs, either of which could delay or prevent our commercialization efforts in those markets.

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 preclinical and clinical data demonstrating that our product candidates are safe and effective before they can be approved for commercial sale. Clinical development, including preclinical testing, is also a long, expensive, and uncertain process. It may take us several 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 study structure, conduct, 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, 2008, we have spent approximately 14 years and $255.6 million on our research and development program in heat shock proteins for cancer.

To obtain regulatory approvals, we must, among other requirements, complete carefully controlled and well-designed preclinical studies and clinical trials demonstrating that a particular product candidate is safe and effective for the applicable disease. Several biotechnology companies have failed to obtain regulatory approvals because regulatory agencies were not satisfied with the structure or conduct of the preclinical studies and clinical trials, or the ability to collect data or interpret the data from the trials. In addition, data from clinical trials are subject to varying interpretations and the data may not demonstrate the desired safety and efficacy. Similar problems could delay or prevent us from obtaining approvals.

We may not complete our planned preclinical studies or clinical trials on schedule or at all. We may not be able to confirm the safety and efficacy of our potential drugs in long-term clinical trials, which may result in further delays or failure to commercialize our product candidates. 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. Because we rely on third-party clinical investigators and contract research organizations to conduct our clinical trials, we may encounter delays outside our control, particularly if our relationships with any third-party clinical investigators or contract research organizations are adversarial. 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. If we are unable to satisfy clinical sites or regulatory authorities with respect to such matters, including the specific matters noted above, or our clinical trials yield inconclusive or negative results, we will be required to modify or expand the scope of our clinical studies or conduct additional studies to support marketing approvals,

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or modify our development pipeline. 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.

Also, we or regulatory authorities might further delay or halt our clinical trials for various reasons, including but not limited to:

- we may fail to comply with extensive regulations;
- a product candidate may not appear to be more effective than current therapies;
- a product candidate may have unforeseen, undesirable, or significant adverse side effects, toxicities, or other characteristics;
- we may fail to prospectively identify, or identify at all, the most appropriate patient populations and/or statistical analyses for inclusion in our clinical trials;
- the time required to determine whether a product candidate is effective may be longer than expected;
- we may be unable to adequately follow or evaluate patients after treatment with a product candidate;
- patients may die during a clinical trial because their disease is too advanced or because they experience medical problems that may not be related to the product candidate;
- sufficient numbers of patients may not meet our eligibility criteria and/or enroll in our clinical trials and may withdraw from our clinical trials after they have enrolled; or
- we may be unable to produce sufficient quantities of a product candidate to complete the trial.

Furthermore, regulatory authorities, including the FDA and the European Medicines Agency, may have varying interpretations of our preclinical study and clinical trial data, which could delay, limit, or prevent regulatory approval or clearance. Any delays or difficulties in obtaining regulatory approvals or clearances for our product candidates may:

- adversely affect the marketing of any products we or our collaborators develop;
- impose significant additional costs on us or our collaborators;
- diminish any competitive advantages that we or our 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.

If we are delayed in these activities or do not receive regulatory approval for our product candidates in a timely manner, we may have to incur additional development expense, and subject to securing additional financing, we will not be able to commercialize them in the timeframe anticipated, and therefore our business will suffer.

Challenges in identifying sufficient numbers of patients that meet our eligibility criteria, enrolling patients in our studies, or retaining patients in our studies after they have enrolled, will slow or prevent completion of clinical trials.

We have encountered in the past, and may encounter in the future, delays in initiating trial sites and in enrolling patients into our clinical trials. Future enrollment delays will postpone the dates by which we expect to complete the impacted trials and the potential receipt of regulatory approvals, and may result in increased cost. If we fail to enroll a sufficient number of patients in clinical trials, the trials may fail to demonstrate the efficacy of a product candidate at a statistically significant level. Enrollment difficulties may arise due to many factors, including the nature of our product candidates, the identification of patients meeting the inclusion criteria, the

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speed of clinical trial site review of our protocols and their success in enrollment, delay in contract negotiations with clinical trial sites, increased industry demand for trial patients, the advanced disease state of the patients, or a high dropout rate, among others. Patients may also die during a clinical trial if their disease is advanced or because they experience problems unrelated to the product candidate.

New data from our research and development activities 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 preclinical 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 are sometimes a daily occurrence 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. 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 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.

While we have been pursuing these business development efforts for several years, we have not concluded an agreement relating to the potential development or commercialization of Oncophage. Due to the announcement 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 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 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.

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.

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 up-front payments or substantial royalty rates. If we fail to enter into collaboration agreements, our efforts to develop and/or commercialize Oncophage, Aroplatin, or AG-707 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 securities, to fund our operations. Sales of certain securities may substantially dilute the ownership of existing stockholders.

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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 a Phase 2 clinical trial of Oncophage for the treatment of recurrent 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. Such disputes could result in the incurrence of significant expense. 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 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 heat shock proteins for a sufficiently large number of patients in our clinical trials, it may lower the probability of a successful analysis of the data from these trials and, ultimately, the ability to obtain regulatory approvals. For example, our inability to manufacture adequate amounts of Oncophage for approximately 30% of the patients randomized in the Oncophage treatment arm of the Phase 3 metastatic melanoma trial undermined the potential for the trial to meet its pre-specified clinical endpoints. To address this lower success rate for melanoma, we included additional protease inhibitors in the manufacturing process to further limit the breakdown of the product. Subsequent to the implementation of this change, we successfully produced Oncophage for 18 of 23 patients, a success rate of approximately 78%, whereas previously we had produced Oncophage for 123 of 179 patients, a success rate of approximately 69%. The small sample size used subsequent to our process change may make the reported improvement in our manufacturing success unreliable as a predictor of future success.

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We have successfully manufactured product for 100%, 10 of 10, of the patients randomized to treatment in our Phase 2 lung cancer trial and 95%, 21 of 22, of the patients randomized to treatment in our Phase 2 metastatic renal cell carcinoma trial. Based on our clinical trials to date, we have been able to manufacture Oncophage from 87% of the tumors delivered to our manufacturing facility in Lexington, Massachusetts; for non-metastatic renal cell carcinoma, 92%; for melanoma, 70%; for colorectal cancer, 98%; for gastric cancer, 81%; for lymphoma, 89%; for glioma, 81%; and for pancreatic cancer, 46%. The relatively low rate of manufactured product for pancreatic cancer is due to the abundance of proteases in pancreatic tissue. Proteases, which are enzymes that break down proteins, are believed to degrade the heat shock proteins during the purification process.

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 100 foreign patents. We also have exclusive rights to 17 pending United States patent applications and 82 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 to, or use, our technology.

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 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.

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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 and would consume time and other 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. We know of patents issued to third parties relating to heat shock proteins and alleviation of symptoms of cancer. We have reviewed these patents, and we believe, as to each claim in those patents, that we either do not infringe the claim, or that the claim is invalid. 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 with respect to the third-party patents mentioned above, as well as 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.

We may become involved in expensive patent litigation or other proceedings, which could result in our incurring substantial costs and expenses or substantial liability for damages, or require us to stop development and commercialization efforts.

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.

The cost to us of any patent litigation or other proceeding, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the cost of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. If a patent litigation or other proceeding is resolved against us, we or our 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.

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.

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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 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 be unable to successfully develop our product candidates, conduct clinical trials, and obtain financing.

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 restructured our business and reduced staffing levels. This has in many cases 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

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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. 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. It is uncertain whether there will be any revised or future settlement. To date, the plaintiffs have not asserted a specific amount of damages and, at this time, we cannot make a reliable estimate of possible loss, if any, related to this litigation. Regardless of the outcome, participation in this lawsuit diverts our management s time and attention from our business and may result in our paying damages.

In addition, we are involved in other litigation and 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 $25.0 million annual aggregate coverage and $25.0 million per occurrence coverage. This limited 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 various 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;
- 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 of commercial products may delay shipments and limit our ability to move commercial product in an efficient

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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, 2008, Antigenics Holdings LLC controlled approximately 17% 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 47% 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 stock are currently convertible at any time into 2,000,000 shares of common stock at an initial conversion price

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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, 2008, he would have held approximately 11% 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 25% of our outstanding common stock as of December 31, 2008, 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 27%. 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 an initial fixed conversion price of $3.50 per share at the option of the investors. On December 31, 2008, one holder of the 2006 Notes had holdings which, if totally converted into shares of our common stock, would result in this holder owning 6,774,038 shares. If such holder had exercised such conversion right on December 31, 2008, such holder would have owned approximately 9% of our outstanding common stock.

On September 10, 2007, we issued 10,000 shares of our series B1 convertible preferred stock and 5,250 shares of our series B2 convertible preferred stock to a single institutional investor. In April 2008, all of the series B1 convertible preferred stock was converted into 1,585,197 shares of our common stock via a cashless conversion. 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, 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 expire seven years from the date of issuance. 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.

While the 2006 Notes and the outstanding class B convertible preferred stock do not carry any voting rights, the common stock issuable upon conversions of such securities do carry the same voting rights as other shares of common stock. The ownership positions following any such conversions, 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 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

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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 generally had low trading volume, and its public trading price has been volatile.

Between our initial public offering on February 4, 2000 and December 31, 2008, and for the year ended December 31, 2008, the closing price of our common stock has fluctuated between $0.41 and $52.63 per share and $0.41 and $3.03 per share, respectively, with an average daily trading volume for the year ended December 31, 2008 of approximately 258,000 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 by us or by our competitors;
- regulatory developments; 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, 2008, we had 66,354,671 shares of common stock outstanding. All of these shares are eligible for sale on the NASDAQ, although certain of the shares are subject to sales volume and other limitations. We have filed registration statements to permit the sale of 12,436,831 shares of common stock under our equity incentive plan and certain equity plans that we assumed in the acquisitions of Aquila Biopharmaceuticals, Inc. and Aronex Pharmaceuticals, Inc. We have also filed registration statements to permit the sale of 450,000 shares of common stock under our employee stock purchase plan, to permit the sale of 250,000 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 and to permit the sale of 14,000,000 shares of common stock pursuant to the private placement agreement dated April 8, 2008. As of December 31, 2008, an aggregate of 31,981,365 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, 2008, options to purchase 7,873,464 shares of our common stock with a weighted average exercise price per share of $5.00 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, 2008, we have 966,450 nonvested shares outstanding.

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

Our common stock is currently listed on The NASDAQ Global 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 listing on The NASDAQ Global Market.

On November 20, 2008, we were notified by the Listing Qualifications Staff of NASDAQ that our common stock was subject to delisting from The NASDAQ Global Market based upon our failure to satisfy the $50.0 million minimum market value of listed securities requirement for the previous ten consecutive trading days (pursuant to Rule 4450(b)(1)(A) of the NASDAQ Marketplace Rules). We were granted a thirty calendar-day period to regain compliance with the requirement, and on December 23, 2008, we were notified by NASDAQ that we did not regain compliance. NASDAQ has indicated that our common stock is subject to delisting unless the Company requested a hearing before the Panel. We had the hearing at which we presented a plan for regaining compliance with the NASDAQ Marketplace Rules. We are awaiting the Panel s decision. Our shares will continue to be listed on The NASDAQ Global Market pending the issuance of the Panel s decision. There can be no assurance that the Panel will grant our request, or that we will meet the requirements for continued listing on The NASDAQ Global Market or The NASDAQ Capital Market.

Because we are a relatively 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 and required additional management resources.

The Sarbanes-Oxley Act of 2002 and rules adopted by the SEC and the NASDAQ have resulted in, and we expect will continue to result 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 financial resources and 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 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, 2008, 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 2008 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. 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. It is uncertain whether there will be any revised or future settlement. To date, the plaintiffs have not asserted a specific amount of damages and, at this time, we cannot make a reliable estimate of possible loss, if any, related to this litigation. Accordingly, no accrual has been recorded at December 31, 2008.

We currently are a party, 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.

Item 4. ***Submission of Matters to a Vote of Security Holders***

No matters were submitted to stockholders for a vote during the fourth quarter of 2008.

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Executive Officers of the Registrant

Set forth below is certain information regarding our current and certain former executive officers, including their age, as of March 1, 2009:

Name	Age	Title
Garo H. Armen, Ph.D.	56	Chairman of the Board and Chief Executive Officer
Shalini Sharp	34	Vice President and Chief Financial Officer
Christine M. Klaskin	43	Vice President, Finance and Principal Accounting Officer
Karen Valentine	37	Vice President and General Counsel
Kerry A. Wentworth	36	Vice President, Regulatory Affairs & Clinical Operations

GARO H. ARMEN, PH.D. is Chairman and Chief Executive Officer of Antigenics, the biotechnology company he co-founded with Pramod Srivastava in 1994. From mid-2002 through 2004, he was Chairman of the Board of Directors for the biopharmaceutical company Elan Corporation, plc. Dr. Armen is also the founder and President of the Children of Armenia Fund (COAF), a charitable organization established in 2000 that is dedicated to the positive development of the children and youth of Armenia.

SHALINI SHARP joined Antigenics in 2003, and managed strategic planning, investor relations, and financing and acquisition transactions. Prior to this, she was Director of Strategic Planning at Elan Corporation, plc, where she served as Chief of Staff to the Chairman of the Board during the restructuring process and drove to completion a number of strategic corporate and financial transactions. Ms. Sharp was previously a management consultant at McKinsey & Company, specializing in the pharmaceutical and medical device industries. She has also worked in investment banking at Goldman, Sachs & Company, primarily in the health care field. Ms. Sharp received both her bachelor s degree and MBA from Harvard University.

CHRISTINE M. KLASKIN joined Antigenics in 1996 as Finance Manager and has held various positions within the finance department. Prior to Antigenics, she was at Arthur Andersen from 1987, most recently as an audit manager. Ms. Klaskin received her Bachelor of Accountancy from The George Washington University.

KAREN VALENTINE joined Antigenics in 2004 and has played an integral role in developing and managing the legal department and participating in strategic planning. She also serves as Secretary and Compliance Officer of the Company. Prior to joining Antigenics, Ms Valentine was an associate in the biotechnology practice of Palmer & Dodge LLP (now Edwards, Angell, Palmer & Dodge LLP).

KERRY A. WENTWORTH joined Antigenics in 2005 and previously served as Senior Director of Regulatory Affairs at Genelabs Technologies, where she was responsible for regulatory and quality functions. There, she focused on late-stage clinical development and subsequent U.S. and European commercial application filings for the company s lead product Prestara , a treatment for systemic lupus erythrematosus. Prior to Genelabs, Ms. Wentworth held various positions in regulatory affairs at Shaman Pharmaceuticals and at Genzyme Corporation. With more than 12 years of regulatory experience, Ms. Wentworth has considerable expertise in the development, global licensing, and post-marketing activities associated with drug and biological products. Ms. Wentworth received a bachelor s degree in pre-veterinary medicine from the University of New Hampshire.

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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 Global Market under the symbol AGEN.

On November 20, 2008, we were notified by the Listing Qualifications Staff of NASDAQ that our common stock was subject to delisting from The NASDAQ Global Market based upon our failure to satisfy the $50.0 million minimum market value of listed securities requirement for the previous ten consecutive trading days (pursuant to Rule 4450(b)(1)(A) of the NASDAQ Marketplace Rules). We were granted a thirty calendar-day period to regain compliance with the requirement, and on December 23, 2008, we were notified by NASDAQ that we did not regain compliance. NASDAQ indicated that our common stock was subject to delisting unless the Company requested a hearing before the Panel. We had the hearing at which we presented a plan for regaining compliance with the NASDAQ Marketplace Rules. We are awaiting the Panel s decision. Our shares will continue to be listed on The NASDAQ Global Market pending the issuance of the Panel s decision. There can be no assurance that the Panel will grant our request, or that we will meet the requirements for continued listing on The NASDAQ Global Market or The NASDAQ Capital Market.

The following table sets forth, for the periods indicated, the high and low sale prices per share of our common stock as reported on The NASDAQ Global Market.

	High	Low
2007		
First Quarter	$ 2.32	$ 1.54
Second Quarter	5.42	2.22
Third Quarter	3.21	2.15
Fourth Quarter	3.45	1.95
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

As of March 1, 2009, there were approximately 1,900 holders of record and approximately 17,060 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, 2003 to December 31, 2008, 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, 2003. 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

	12/31/2003	12/31/2004	12/31/2005	12/31/2006	12/31/2007	12/31/2008
Antigenics Inc.	100.00	89.24	41.98	16.14	17.99	4.23
NASDAQ Stock Market (U.S. Companies) Index	100.00	108.59	110.08	120.56	132.39	78.72
NASDAQ Biotechnology Index	100.00	106.13	109.14	110.25	115.30	100.75

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

We have derived the consolidated balance sheet data set forth below as of December 31, 2008 and 2007, and the consolidated statement of operations data for each of the years in the three-year period ended December 31, 2008, from our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

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 (3) 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 $46.9 million, $4.6 million, $25.4 million, $48.3 million, and $54.6 million in the years ended December 31, 2008, 2007, 2006, 2005, and 2004, respectively.

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	For the Year Ended December 31,				
	2008	2007	2006	2005	2004
	(In thousands, except per share data)				
Consolidated Statement of Operations Data:					
Revenue	$ 2,651	$ 5,552	$ 692	$ 630	$ 707
Operating Expenses:					
Cost of sales					(5)
Research and development	(20,663)	(21,789)	(28,643)	(47,080)	(41,718)
General and administrative	(19,832)	(17,041)	(21,288)	(25,868)	(25,784)
Acquired in-process research and development (1)					(2,888)
Restructuring costs			(1,374)	(1,596)	
Loss from operations	(37,844)	(33,278)	(50,613)	(73,914)	(69,688)
Non-operating income	13,260	1	141	1	8
Interest (expense) income, net	(4,114)	(3,518)	(1,409)	(191)	929
Loss from continuing operations	(28,698)	(36,795)	(51,881)	(74,104)	(68,751)
Income from discontinued operations (2)					12,589
Net loss (3)	(28,698)	(36,795)	(51,881)	(74,104)	(56,162)
Dividends on series A convertible preferred stock	(790)	(790)	(790)	(790)	(790)
Net loss attributable to common stockholders	$ (29,488)	$ (37,585)	$ (52,671)	$ (74,894)	$ (56,952)
Loss from continuing operations per common share, basic and diluted	$ (0.47)	$ (0.81)	$ (1.15)	$ (1.64)	$ (1.56)
Income from discontinued operations per common share, basic and diluted	$	$	$	$	$ 0.28
Net loss attributable to common stockholders per common share, basic and diluted	$ (0.47)	$ (0.81)	$ (1.15)	$ (1.64)	$ (1.27)
Weighted average number of shares outstanding, basic and diluted	63,249	46,512	45,809	45,577	44,685

	December 31,				
	2008	2007	2006	2005	2004
	(In thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents, and short-term investments	$ 34,463	$ 18,679	$ 40,095	$ 61,748	$ 86,921
Total current assets	35,486	20,782	42,298	66,962	92,604
Total assets	56,945	44,537	72,952	104,151	133,058
Total current liabilities	6,997	8,383	9,078	19,145	19,204
Long-term debt, less current portion	67,836	77,401	75,333	50,044	4,512
Stockholders (deficit) equity	(23,918)	(47,060)	(17,393)	31,899	106,443

(1) We recorded a charge to operations for the write-off of in-process research and development acquired with the purchase of intellectual property from Mojave Therapeutics Inc. in July 2004.

(2) In March 2004, we sold our manufacturing rights and related assets for a feline leukemia virus (FeLV) vaccine to Virbac S.A. The results of operations of the FeLV activity was treated as discontinued operations for 2004.

(3) 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 and under review by the European Medicines Agency for the treatment of kidney cancer patients with earlier-stage disease. 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 a Phase 2 clinical trial in recurrent glioma, a type of brain cancer. Our business activities have included product research and development, intellectual property prosecution, manufacturing therapeutic vaccines for clinical trials, 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, 2008, we had an accumulated deficit of $527.3 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, based on our current plans and activities, that our working capital resources at December 31, 2008, anticipated revenues, and the estimated proceeds from our license, supply, and collaborative agreements will be sufficient to satisfy our liquidity requirements into 2010. We expect to attempt to raise additional funds in advance of depleting our current funds. Satisfying long-term liquidity needs may require the successful commercialization of our product, Oncophage and/or one or more partnering arrangements for Oncophage, successful commercialization of QS-21 by our licensees, and potentially successful commercialization of other product candidates, and will require additional capital.

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 to the European Medicines Agency 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.

In addition, we are exploring the steps necessary to seek approval of Oncophage in other markets outside the United States. 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. Furthermore, this trial ultimately may not be sufficient to support approval in additional countries.

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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.

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, generating net proceeds of $19.7 million, after deducting offering costs of $1.3 million. The warrants became exercisable for a period of 4.5 years as of October 10, 2008.

On April 25, 2008, we issued 1,585,197 shares of our common stock to Fletcher International, Ltd. upon conversion by Fletcher of 10,000 shares of our series B1 convertible preferred stock, issued on September 10, 2007, via a cashless conversion.

In April 2008, we also 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.

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 5.25% convertible senior notes due February 2025 (the 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. Subsequently, we repurchased $11.8 million of our 2005 Notes for $2.9 million plus accrued interest of $178,000.

Effective November 30, 2008, we entered into a patent assignment agreement assigning all rights, title, and interest in certain patent applications, as defined in the agreement. Upon execution of the patent assignment agreement, we received a $2.0 million non-refundable up-front payment. In addition, we are to receive a payment of $2.75 million eighteen months after the effective date of the agreement regardless of the status of the patent applications.

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

On November 20, 2008, we were notified by the Listing Qualifications Staff of NASDAQ that our common stock was subject to delisting from The NASDAQ Global Market based upon our failure to satisfy the $50.0 million minimum market value of listed securities requirement for the previous ten consecutive trading days (pursuant to Rule 4450(b)(1)(A) of the NASDAQ Marketplace Rules). We were granted a thirty calendar-day period to regain compliance with the requirement, and on December 23, 2008, we were notified by NASDAQ that we did not regain compliance. NASDAQ indicated that our common stock was subject to delisting unless the company requested a hearing before the Panel. We had the hearing at which we presented a plan for regaining compliance with the NASDAQ Marketplace Rules. We are awaiting the Panel s decision. Our shares will continue to be listed on The NASDAQ Global Market pending the issuance of the Panel s decision. There can be no assurance that the Panel will grant our request, or that we will meet the requirements for continued listing on The NASDAQ Global Market or The NASDAQ Capital Market.

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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 current market conditions and to focus our resources on near-term commercial opportunities. We estimate that we will incur roughly $200,000 in severance and outplacement expenses related to this restructuring in the quarter ending March 31, 2009. All of these expenses will result in future cash outlays, most of which will be paid by March 31, 2009.

Historical Results of Operations

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 GSK for the transfer of manufacturing technologies to GSK and $1.0 million related to a milestone payment received from 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.

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 an increase 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.

Non-operating Income: Non-operating income of $13.3 million for the year ended December 31, 2008 included an $8.6 million gain on the repurchase of $11.8 million 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 $5.1 million for the year ended December 31, 2008 from $5.0 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.

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Year Ended December 31, 2007 Compared to the Year Ended December 31, 2006

Revenue: We generated revenue of $5.6 million and $692,000 during the years ended December 31, 2007 and 2006, respectively. Revenue includes revenue earned on shipments of QS-21 to our QS-21 licensees, license fees and royalties earned, and in 2007, milestones achieved. In 2007, we recognized $1.0 million of revenue from shipments of QS-21, $2.0 million of revenue related to a milestone payment received from GSK for the transfer of manufacturing technologies to GSK, and recorded $788,000 from the amortization of deferred revenue related to other payments received from GSK. In addition, in June 2007, we earned revenue of $1.0 million related to a milestone payment received from Elan, which initiated a Phase 2 study of their Alzheimer s disease product candidate that contains QS-21. Revenue earned on shipments of QS-21 was $451,000 in 2006.

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 research and development conducted for us by third parties, such as sponsored university-based research partners, and services provided by clinical research organizations. Research and development expense decreased 24% to $21.8 million for the year ended December 31, 2007 from $28.6 million for the year ended December 31, 2006. The decrease was partially due to a $2.2 million reduction in payroll and personnel-related expenses due to a workforce reduction in April 2006 and subsequent attrition. There was an additional decrease of $2.8 million in our clinical trial-related expenses due to our restructuring plan and the temporary discontinuance and/or conclusion of late-stage clinical programs. Other expenses decreased $2.8 million due to fewer ongoing projects and cost containment efforts. These reductions were partially offset by an increase in noncash, share-based compensation expense of $966,000.

General and Administrative: General and administrative expenses consist primarily of personnel costs, facility expenses, and professional fees. General and administrative expenses decreased 20% to $17.0 million for the year ended December 31, 2007 from $21.3 million for the year ended December 31, 2006. This decrease was a reflection of our cost-cutting efforts. Specific cost reductions included a $1.5 million reduction in payroll and personnel-related expenses due mainly to the workforce reduction in April 2006, as well as reductions in professional fees of $686,000. In addition, in 2006 we recorded an other than temporary decline in the value of our investment in Applied Genomic Technology Capital Fund (AGTC), a limited partnership, of $806,000 as a result of our formal plan to sell our limited partner interest. Noncash, share-based compensation expense also decreased $947,000 in 2007.

Restructuring and Impairment Costs: In April 2006, we commenced the implementation of a plan to expand our restructuring activities that began in 2005 by refocusing our programs and priorities with the goal of reducing our net cash burn (defined as cash used in operating activities plus capital expenditures, debt repayments, and dividend payments) and eliminated 42 positions. We recorded total restructuring charges of $757,000 for the year ended December 31, 2006. During 2006, we also wrote-off certain assets that were determined to not be required for our updated business strategy. This resulted in impairment charges of $617,000.

Non-operating Income: Non-operating income of $141,000 for the year ended December 31, 2006 represented a lease termination fee received from one of our sublessees and proceeds from the sale of certain assets.

Interest Expense: Interest expense increased to $5.0 million for the year ended December 31, 2007 from $3.3 million for the year ended December 31, 2006. This increase relates primarily to interest on our 2006 Notes that were issued on October 30, 2006. Through December 31, 2007, interest on the 2006 Notes was paid in the form of additional senior secured convertible notes, in accordance with the terms of the applicable agreement.

Interest Income: Interest income decreased 22% to $1.5 million for the year ended December 31, 2007 from $1.9 million for the year ended December 31, 2006. This decrease was primarily attributable to a decrease in cash, cash equivalents, and short-term investments, partially offset by a rise in interest rates earned on our cash, cash equivalents, and short-term investments. Our average interest rate earned increased from 4.6% for the year ended December 31, 2006 to 5.3% for the year ended December 31, 2007.

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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 2008, these research and development programs consisted largely of Oncophage, AG-707, Aroplatin, and QS-21, as indicated in the following table (in thousands).

Research and Development Program	Product	Year Ended December 31, 2008	2007	2006	Prior to 2006	Total
Heat Shock Proteins for Cancer	Oncophage	$ 17,156	$ 13,970	$ 19,985	$ 204,471	$ 255,582
Heat Shock Proteins for Infectious Diseases	AG-702/707	1,377	2,005	1,939	12,127	17,448
Liposomal Cancer Treatments *	Aroplatin	865	3,005	2,475	9,092	15,437
Vaccine Adjuvant **	QS-21	648	2,064	2,492	4,944	10,148
Other Research and Development Programs		617	745	1,752	14,626	17,740
Total Research and Development Expenses		$ 20,663	$ 21,789	$ 28,643	$ 245,260	$ 316,355

* 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 trials, apply for regulatory approvals, continue development of our technologies, expand our operations, and 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 in early-stage clinical development and currently 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, and obtaining regulatory approvals and successfully commercializing product candidates containing QS-21.

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.

Our Phase 1/2 clinical trial in recurrent, high-grade glioma is currently our lead ongoing clinical trial. This study is being lead by the Brain Tumor Research Center at the University of California, San Francisco, with

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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, showed that 11 out of 12 patients exceeded the historical median benchmark of 6.5 months survival from time of recurrence. 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 the Phase 2 portion, which is designed to enroll 30 patients.

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.

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 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, which is expected to provide additional data on the effectiveness of Oncophage, will follow patients for 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. We expect to announce preliminary results from the registry in 2009. In addition to the patient registry, we are in the early initiation stage of a small study in non-metastatic renal cell carcinoma that measures immunological data in the intermediate-risk patient population. The results of this study and continued data collection and our ongoing analysis are uncertain, and may negatively affect or not 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.

We or our distributors must also obtain import and export approvals from the Russian authorities, as well as complete a number of post approval activities. In addition, 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 secure import and export approvals in Russia, 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 launch, the amount of revenue generated from the sale of Oncophage in Russia will depend on, among other things,

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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 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 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 marketing authorization application to the European Medicines Agency 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. Products that have orphan designation in the European Union can also qualify for conditional authorization. Specifically, conditional authorization allows for the commercialization of a product with post approval commitments associated with the requirement to provide comprehensive clinical information about the products efficacy and safety profile. Products receiving conditional authorization are required to undergo annual regulatory evaluation and renewal until all commitments are fulfilled. Currently, there are no European Medicines Agency-approved drug therapies for this patient population. The marketing authorization application is undergoing review through the Centralized Procedure, which means that an approval, if granted, would apply to all current 27 European Union countries plus Norway and Iceland.

In addition, we are exploring the steps necessary to seek approval of Oncophage in other markets outside the United States. 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 approvals, 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. Furthermore, this trial ultimately may not be sufficient to support approval in additional countries.

QS-21

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 10,000 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.

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A number of pharmaceutical and biotechnology companies have licensed QS-21 for use in vaccines to treat a variety of human diseases. Companies with QS-21 programs include GSK and Elan. 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. 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 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 previously granted in July 2006. Accordingly, from the effective date of the 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. Also, in accordance with the terms of the letter, 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. 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 a Phase 3 study evaluating its investigational MAGE-A3 Antigen-Specific Cancer Immunotherapeutic containing QS-21 in non-small cell lung cancer. GSK and its research partners have also released data from Phase 2 studies of its malaria vaccine candidate in African infants and young children. GSK has indicated that it intends to proceed into late stage trials of what could be the first malaria vaccine for infants and young children in Africa.

Elan has a commercial license for the use of QS-21 in research and commercialization of products. Under the terms of the agreement, we are entitled to receive future milestone payments and product royalties in the event of the successful development of Elan s Alzheimer s disease vaccine that contains QS-21. In 2007, Elan initiated a Phase 2 study of their vaccine. Pursuant to the terms of the supply agreement between the parties, we (directly or through a third-party manufacturer) are Elan s exclusive supplier of QS-21.

AG-707

The first potential off-the-shelf application of our heat shock protein technology, AG-707, is an investigational therapeutic vaccine product candidate directed at the virus that causes genital herpes (herpes simplex virus-2, or HSV-2). AG-707 is a multivalent vaccine containing multiple synthetic HSV-2 peptides. Based on the results of completed toxicology studies and other preclinical activities, we submitted to the FDA an 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. Analysis of immune responses from this study is ongoing and results are expected in the first half of 2009. Further work on this program is on hold due to cost containment efforts.

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.

In 2002, we initiated a Phase 2 trial with Aroplatin for advanced colorectal cancer unresponsive to medical treatment. This single-arm, open-label trial, conducted at the Arizona Cancer Center, was designed to evaluate the effect of Aroplatin alone in patients whose disease is not responsive to standard first-line cancer treatments (5-fluorouracil/leucovorin or capecitabine and irinotecan). In September 2003, the investigators presented findings from this trial at the European Cancer Conference, also known as ECCO. One out of the 15 evaluable patients demonstrated a partial clinical response and two experienced disease stabilization. Researchers observed that Aroplatin appeared well tolerated in this pretreated patient population. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. This trial is completed.

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In January 2003, we also initiated at the John Wayne Cancer Center, in Santa Monica, California, a Phase 1/2 trial of Aroplatin for a variety of advanced solid malignancies amenable to platinum therapy. The final study data demonstrated that out of the 15 evaluable patients, 14 were reported with disease progression at the first evaluation for disease status after the first treatment with Aroplatin, and one patient demonstrated stabilization of disease with subsequent disease progression after two months. The median time to progression was 66 days with a minimum of 49 days and a maximum of 105 days. This study is complete, and the data have undergone final review and analysis.

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 closed and a study report completed. 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. However, we would consider licensing and/or co-development opportunities to advance the product.

Liquidity and Capital Resources

We have incurred annual operating losses since inception, and we had an accumulated deficit of $527.3 million as of December 31, 2008. We expect to incur significant losses over the next several years as we continue our clinical trials, apply for regulatory approvals, prepare for commercialization, continue development of our technologies, and expand our operations. Phase 3 trials are particularly expensive to conduct. 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, 2008, we have raised aggregate net proceeds of $476.0 million through the sale of common and preferred stock, the exercise of stock 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, 2008, we had debt outstanding of $68.0 million, including $29.6 million of our 2006 Notes maturing August 30, 2011 and $38.2 million 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, debt repayments, and dividend payments) will be in the $25 million range for the year ending December 31, 2009. We continue to support and develop our QS-21 partnering collaborations, with the goal of generating royalties from this product in the 2010 timeframe.

We believe, based on our current plans and activities, that our working capital resources at December 31, 2008, anticipated revenues, and the estimated proceeds from our license, supply, and collaborative agreements will be sufficient to satisfy our liquidity requirements into 2010. The Company closely monitors its cash needs. Should certain of our anticipated revenues not prove to be commercially feasible by the end of the second quarter of 2009, the Company may suspend funding of the related activities. In addition, the Company 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 2010 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 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 QS-21

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by our licensees, and potentially successful commercialization of other product candidates, and 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 current 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 $47.9 million over the term of the studies. Through December 31, 2008, we have expensed $46.0 million as research and development expenses and $45.5 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 through December 31, 2008. 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 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 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, 2008 were $34.5 million, an increase of $15.8 million from December 31, 2007.

On January 9, 2008, we entered into 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.

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 SEC declared the resale registration statement effective on February 14, 2008. Shares issuable under the unit warrants have not been registered as of this time.

On April 8, 2008, we entered into 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

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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.

As part of the private placement agreements for both the January 2008 and April 2008 private placements, 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. Given that, upon our filing of this Annual Report on Form 10-K, we will cease to be eligible to register the resale of the shares from both the January 2008 and April 2008 private placements on Form S-3, we filed a post-effective amendment on Form S-1 to each of the resale registration statements for the January 2008 and April 2008 private placements. Based on our discussions with the SEC, we expect the SEC to declare each of these post-effective amendments effective upon the filing of this Annual Report on Form 10-K or shortly thereafter. 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 $4.4 million as of December 31, 2008.

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. Proceeds from the offering will be used for general corporate purposes. This offering was made under an effective shelf registration statement.

On November 11, 2008, we entered into an 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. Subsequently, we repurchased $11.8 million of our 2005 Notes for $2.9 million plus accrued interest of $178,000.

Effective November 30, 2008, we entered into a patent assignment agreement assigning all rights, title, and interest in certain patent applications, as defined in the agreement. Upon execution of the patent assignment agreement, we received a $2.0 million non-refundable up-front payment. In addition, we are to receive a payment of $2.75 million eighteen months after the effective date of the agreement regardless of the status of the patent applications.

During the years ended December 31, 2008 and 2007, we used cash primarily to finance our operations. Net cash used in operating activities for the years ended December 31, 2008 and 2007 was $28.9 million and $26.7 million, respectively. We continue to support and develop our QS-21 partnering collaborations, with the goal of generating royalties from this product in the 2010 timeframe. 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.

Net cash used in investing activities for the year ended December 31, 2008 was $4.0 million as compared to net cash provided by investing activities of $13.2 million for the year ended December 31, 2007. During the year ended December 31, 2008, we had net purchases of short-term securities of $5.8 million compared with net proceeds from maturities of short-term securities of $11.7 million during the year ended December 31, 2007.

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Net cash provided by financing activities was $42.9 million for the year ended December 31, 2008 as compared to $3.8 million for the year ended December 31, 2007. During the year ended December 31, 2008, we raised net proceeds from private placements of $45.7 million. During the years ended December 31, 2008 and 2007, proceeds from our employee stock purchase plan totaled $287,000 and $78,000, respectively. In addition, during the year ended December 31, 2008, we received net proceeds of $804,000 from at the market offerings and $47,000 from the exercise of stock options. No stock options were exercised during the year ended December 31, 2007. Dividends paid on our series A convertible preferred stock totaled $791,000 during both periods. During 2008, we repurchased $11.8 million of our 2005 Notes for $2.9 million.

The table below summarizes our contractual obligations as of December 31, 2008 (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)	$ 81,961	$ 2,208	$ 40,550	$ 39,203	$
Operating leases	11,794	3,108	5,139	3,547	
Total	$ 93,755	$ 5,316	$ 45,689	$ 42,750	$

(1) Assumes the 2006 Notes are not converted and are paid in 2011. In certain circumstances, they could be called or converted before then. Also includes fixed interest payments and assumes that the 2005 Notes are not converted and are paid on February 1, 2012. In certain circumstances, they 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 $26.1 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 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 $1.2 million in 2009 and $863,000 in 2010. The collection of this income, however, is subject to uncertainty.

We are currently involved in certain legal proceedings as detailed in Item 3 above and Note 15 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

As of December 31, 2006, we had invested $2.8 million in AGTC. Our total capital commitment to AGTC was $3.0 million. The management company for AGTC is NewcoGen Group Inc., which is a wholly-owned subsidiary of Flagship Venture Management, Inc. Noubar Afeyan, Ph.D., who was a member of our Board of Directors, is the Managing Partner and Chief Executive Officer of Flagship. For additional details, refer to Note 4 of the notes to our consolidated financial statements. Garo H. Armen, Ph.D., our Chairman and Chief Executive Officer, was a director of NewcoGen Group Inc. until 2004. During December 2006, we entered into a formal

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plan to sell our limited partner interest in AGTC, identified potential buyers, and received offers. On January 9, 2007, we contributed the final capital call of $165,000 to AGTC and on February 2, 2007, we completed the sale of our limited partner interest in AGTC to an accredited investor and received $1.7 million.

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, 2009, 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.

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 the January 2008 private placement agreement 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.

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 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

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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 SEC Staff Accounting Bulletin (SAB) No. 104, *Revenue Recognition*, and Emerging Issues Task Force (EITF) Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*.

Share-Based Compensation

In accordance with the fair value recognition provisions of Statement of Financial Accounting Standards (SFAS) No. 123 (revised 2004), *Share-Based Payment* (SFAS No. 123R), we recognize share-based compensation expense net of an estimated forfeiture rate and only recognize compensation expense for those shares 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 SFAS No. 123R and EITF Issue No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services.* 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 EITF Issue No. 00-19, *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company s Own Stock*, 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 payment awards requires the use of highly subjective assumptions, including the expected life of the share-based payment awards and stock price volatility. The assumptions used in calculating the fair value of share-based payment 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.

Recent Accounting Pronouncements

We adopted the provisions of SFAS No. 157, *Fair Value Measurements*, effective January 1, 2008, for our financial assets and liabilities. The Financial Accounting Standards Board (FASB) delayed the effective date of SFAS No. 157 until January 1, 2009, with respect to the fair value measurement requirements for non-financial assets and liabilities that are not remeasured on a recurring basis. Under SFAS No. 157, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e., the exit price) in an orderly transaction between market participants at the measurement date. The adoption of SFAS No. 157 did not have a material impact on our consolidated financial statements.

SFAS No. 157 establishes 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;

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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.

The Company s short-term investments are comprised of U.S. Treasury securities that are valued using quoted market prices with no valuation adjustments applied. Accordingly, these securities are categorized in Level 1. The fair value of the U.S. Treasury securities at December 31, 2008, excluding accrued interest, was approximately $10.0 million.

In October 2008, the FASB issued FASB Staff Position (FSP) No. FAS 157-3, *Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active*, which clarifies the application of SFAS No. 157 when the market for a financial asset is inactive. Specifically, FSP FAS 157-3 clarifies how (1) management s internal assumptions should be considered in measuring fair value when observable data are not present, (2) observable market information from an inactive market should be taken into account, and (3) the use of broker quotes or pricing services should be considered in assessing the relevance of observable and unobservable data to measure fair value. The guidance in FSP FAS 157-3 is effective immediately and applies to us in applying SFAS No. 157.

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities.* SFAS No. 159 provides companies with the option to measure specified financial instruments and certain other items at fair value. We adopted the provisions of SFAS No. 159 as of January 1, 2008 and have elected not to measure any additional financial instruments and other items at fair value.

In December 2007, the FASB issued SFAS No. 141 (revised 2007), *Business Combinations* (SFAS No. 141R). This revised standard expands the types of transactions or other events that will qualify as business combinations and requires that all business combinations will result in all assets and liabilities of the acquired business being recorded at their fair values, with limited exceptions. The standard also requires, among other provisions, that certain contingent assets and liabilities will be recognized at their fair values on the acquisition date. An acquirer will also recognize contingent consideration at its fair value on the acquisition date and, for certain arrangements, changes in fair value will be recognized in earnings until the contingency is settled. Under SFAS No. 141R, acquisition-related transaction and restructuring costs will be expensed rather than treated as part of the purchase price allocation process. SFAS No. 141R is required to be applied prospectively to business combinations for which the acquisition is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008, and may not be early adopted.

In December 2007, the FASB issued SFAS No. 160, *Noncontrolling Interests in Consolidated Financial Statements*. SFAS No. 160, which is effective for fiscal years, and interim periods within those fiscal years, beginning on or after December 15, 2008, governs the accounting for and reporting of noncontrolling interests in partially owned consolidated subsidiaries and the loss of control in subsidiaries. The provisions of SFAS No. 160 will be applied to transactions on a prospective basis once adopted.

In March 2008, the FASB issued SFAS No. 161, *Disclosures about Derivative Instruments and Hedging Activities*. SFAS No. 161, which is effective for fiscal years, and interim periods within those fiscal years,

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beginning after November 15, 2008, is intended to improve financial reporting about derivative instruments and hedging activities by requiring enhanced disclosures to enable investors to better understand their effects on an entity s financial position, financial performance and cash flows. We do not expect that the adoption of SFAS No. 161 will have a material impact on our financial position or results of operations.

In May 2008, the FASB issued FSP Accounting Principles Board (APB) 14-1, *Accounting for Convertible Debt Instruments That May Be Settled in Cash upon Conversion (Including Partial Cash Settlement)*, which is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2008. FSP APB 14-1 clarifies that convertible debt instruments that may be settled in cash upon conversion are not addressed by paragraph 12 of APB Opinion No. 14, *Accounting for Convertible Debt and Debt Issued with Stock Purchase Warrants*. FSP APB 14-1 also specifies that issuers of such instruments 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 are currently evaluating the effect of FSP APB 14-1, and we have not yet determined the impact of the standard on our financial position or results of operations.

In June 2008, the FASB ratified the consensus in EITF Issue No. 07-5, *Determining Whether an Instrument (or Embedded Feature) Is Indexed to an Entity s Own Stock*, which is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years. EITF Issue No. 07-5 defines when adjustment features within contracts are considered to be equity-indexed. We are currently evaluating the effect of EITF Issue No. 07-5, and we have not yet determined the impact of the standard on our financial position or results of operations.

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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, 2008, 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, 2008. 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, 2008. The table presents principal payments by year of maturity based on the terms of the debt (in thousands).

	Estimated Fair Value (2)	Carrying Amount December 31, 2008	Year of Maturity 2009	2011	2012
Long-term debt (1)	$ 36,022	$ 67,982	$ 146	$ 29,636	$ 38,200

(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 debt, it matures 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 recently available trader quotes.

We had cash, cash equivalents, and short-term investments at December 31, 2008 of $34.5 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, 2008, 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***

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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, 2008 and 2007, and the related consolidated statements of operations, stockholders (deficit) equity and comprehensive loss, and cash flows for each of the years in the three-year period ended December 31, 2008. 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, 2008 and 2007, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2008, 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, 2008, 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 16, 2009 expressed an unqualified opinion on the effectiveness of the Company s internal control over financial reporting.

/s/ KPMG LLP

Boston, Massachusetts

March 16, 2009

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ANTIGENICS INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

	December 31, 2008	December 31, 2007
ASSETS		
Cash and cash equivalents	$ 24,469,008	$ 14,479,322
Short-term investments	9,993,617	4,199,996
Accounts receivable		318,707
Inventories	226,376	510,872
Prepaid expenses	610,462	837,075
Other current assets	187,013	436,012
Total current assets	35,486,476	20,781,984
Plant and equipment, net of accumulated amortization and depreciation of $25,880,999 and $22,628,352 at December 31, 2008 and 2007, respectively	11,535,467	14,604,243
Goodwill	2,572,203	2,572,203
Core and developed technology, net of accumulated amortization of $8,645,844 and $7,538,581 at December 31, 2008 and 2007, respectively	2,426,785	3,534,048
Debt issuance costs, net of accumulated amortization of $832,827 and $762,820 at December 31, 2008 and 2007, respectively	840,671	1,380,963
Other long-term assets	4,083,442	1,663,401
Total assets	$ 56,945,044	$ 44,536,842
LIABILITIES AND STOCKHOLDERS DEFICIT		
Current portion, long-term debt	$ 146,061	$ 146,061
Current portion, deferred revenue	1,481,999	1,413,255
Accounts payable	540,529	674,473
Accrued liabilities	4,618,806	5,783,740
Other current liabilities	209,585	365,037
Total current liabilities	6,996,980	8,382,566
Convertible senior notes	67,836,416	77,400,533
Deferred revenue	3,436,845	3,038,280
Other long-term liabilities	2,592,882	2,775,766
Commitments and contingencies (Notes 13 and 15)		
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, 2008 and 2007; liquidation value of $31,817,625 at December 31, 2008	316	316
Series B1 convertible preferred stock; 0 and 10,000 shares designated, issued, and outstanding at December 31, 2008 and 2007, respectively		100
Series B2 convertible preferred stock; 5,250 designated, issued, and outstanding at December 31, 2008 and 2007	53	53
Common stock, par value $0.01 per share; 250,000,000 shares authorized; 66,497,702 and 47,557,007 shares issued at December 31, 2008 and 2007, respectively	664,977	475,570
Additional paid-in capital	503,023,026	451,114,779
Treasury stock, at cost; 143,031 and 5,953 shares of common stock at December 31, 2008 and 2007, respectively	(269,849)	(12,168)
Accumulated deficit	(527,336,602)	(498,638,953)
Total stockholders deficit	(23,918,079)	(47,060,303)

Total liabilities and stockholders deficit	$ 56,945,044	$ 44,536,842

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, 2008, 2007, and 2006

	2008	2007	2006
Revenue	$ 2,651,081	$ 5,552,307	$ 692,135
Operating expenses:			
Research and development	(20,662,987)	(21,788,541)	(28,643,510)
General and administrative	(19,831,858)	(17,041,339)	(21,287,599)
Restructuring and impairment costs			(1,374,293)
Operating loss	(37,843,764)	(33,277,573)	(50,613,267)
Other income (expense):			
Non-operating income	13,260,305	611	141,329
Interest expense	(5,080,033)	(4,985,162)	(3,288,660)
Interest income	965,843	1,467,067	1,880,049
Net loss	(28,697,649)	(36,795,057)	(51,880,549)
Dividends on series A convertible preferred stock	(790,500)	(790,500)	(790,500)
Net loss attributable to common stockholders	$ (29,488,149)	$ (37,585,557)	$ (52,671,049)
Per common share data, basic and diluted:			
Net loss attributable to common stockholders	$ (0.47)	$ (0.81)	$ (1.15)
Weighted average number of common shares outstanding, basic and diluted	63,249,458	46,511,577	45,809,142

See accompanying notes to consolidated financial statements.

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ANTIGENICS INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS (DEFICIT) EQUITY AND COMPREHENSIVE LOSS

For the Years Ended December 31, 2008, 2007, and 2006

	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	Deferred Compensation	Comprehensive Loss	Accumulated Deficit	Total
ce at ry 1, 2006	31,620	$ 316		$		$	45,591,216	$ 455,912	$ 441,497,317		$	$ (3,074)	$ (88,103)	$ (409,963,347)	$ 31,899
prehensive oss														(51,880,549)	(51,880
alized gain arketable ities, net													66,250		66
prehensive															(51,814
-based ensation									4,568,473			3,074			4,571
ssification bility fied n grants									(1,728,537)						(1,728
ise of options							185,660	1,857	270,252						272
oyee purchases							66,875	669	196,522						197
ends on A ertible rred stock per share)									(790,500)						(790
ce at mber 31,	31,620	316					45,843,751	458,438	444,013,527				(21,853)	(461,843,896)	(17,393
prehensive oss														(36,795 ,057)	(36,795
alized gain arketable ities, net													21,853		21
prehensive															(36,773
-based ensation									3,555,787						3,555
s issued vate ment			10,000	100	5,250	53	1,623,377	16,234	4,724,969						4,741
							48,813	488	77,510						77

oyee purchases												
s issued Directors red pensation						15,629	156	74,344				74
s issued onsultant						8,333	83	24,917				25
ssification bility fied n grants								(565,604)				(565
ng of ested s						17,104	171	(171)				
ury stock ed for d share tax ents									5,953	(12,168)		(12
ends on A ertible rred stock per share)								(790,500)				(790
ce at mber 31,	31,620	316	10,000	100	5,250	53 47,557,007	475,570	451,114,779	5,953	(12,168)	(498,638,953)	(47,060

See accompanying notes to consolidated financial statements.

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ANTIGENICS INC. AND SUBSIDIARIES

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

For the Years Ended December 31, 2008, 2007, and 2006

	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	Deferred Compensation	Comprehensive Income	Accumulated Deficit	Total
Net loss and comprehensive loss														(28,697,649)	(28,697,649)
Share-based compensation									5,265,530						5,265,530
Shares issued in private placements							15,708,717	157,087	45,382,134						45,539,221
Shares sold at the market							271,762	2,718	801,238						803,956
Exercise of stock options							28,469	285	46,277						46,562
Conversion of series B1 convertible preferred stock			(10,000)	(100)			1,585,197	15,852	(15,752)						
Employee share purchases							171,113	1,711	285,219						286,930
Shares issued under Directors Deferred Compensation Plan							61,938	619	228,381						229,000
Shares issued to a consultant							346,509	3,465	814,161						817,626
Reclassification of liability classified option grants									(100,771)						(100,771)
Vesting of nonvested shares							766,990	7,670	(7,670)						
Treasury stock received for vested share tax payments										137,078	(257,681)				(257,681)
Dividends on series A convertible preferred stock ($25 per share)									(790,500)						(790,500)
Balance at December 31, 2008	31,620	$ 316		$	5,250	$ 53	66,497,702	$ 664,977	$ 503,023,026	143,031	$ (269,849)	$	$	$ (527,336,602)	$ (23,918,079)

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, 2008, 2007, and 2006

	2008	2007	2006
Cash flows from operating activities:			
Net loss	$ (28,697,649)	$ (36,795,057)	$ (51,880,549)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	4,673,959	5,420,330	5,655,595
Share-based compensation	5,581,731	3,055,620	3,036,211
Noncash interest expense	2,235,883	2,067,200	333,333
Write-down of plant and equipment		5,137	695,894
Gain on extinguishment of debt	(8,638,670)		
Gain on sale of patent applications	(4,619,325)		
Loss on disposal of assets	17,053		37,900
Asset impairment			805,861
Changes in operating assets and liabilities:			
Accounts receivable	318,707	(136,214)	(136,907)
Inventories	284,496	(72,228)	(187,591)
Prepaid expenses	226,613	470,573	357,660
Accounts payable	(133,944)	(425,197)	(1,500,449)
Deferred revenue	467,309	1,322,866	2,941,446
Accrued liabilities and other current liabilities	(690,733)	(1,645,941)	(4,780,540)
Other operating assets and liabilities	63,395	41,913	(316,934)
Net cash used in operating activities	(28,911,175)	(26,690,998)	(44,939,070)
Cash flows from investing activities:			
Proceeds from maturities of available-for-sale securities	24,117,910	22,750,000	21,100,000
Purchases of available-for-sale securities	(29,911,527)	(11,051,841)	(8,114,749)
Investment in AGTC		(165,000)	(285,000)
Proceeds from sale of limited partner interest in AGTC		1,665,000	
Proceeds from sale of equipment			33,257
Purchases of plant and equipment	(206,010)	(11,208)	(329,893)
Proceeds from sale of patent applications	2,000,000		
Decrease in restricted cash			2,983,178
Net cash (used in) provided by investing activities	(3,999,627)	13,186,951	15,386,793
Cash flows from financing activities:			
Net proceeds from sales of equity	46,545,177	4,539,356	
Proceeds from exercise of stock options	46,562		272,109
Proceeds from employee stock purchases	286,930	77,998	197,191
Treasury stock received to satisfy minimum tax withholding requirements	(257,681)	(12,168)	
Payments of series A convertible preferred stock dividends	(790,500)	(790,500)	(790,500)
Proceeds from long-term debt			25,000,000
Debt issuance costs		(50,000)	(101,041)
Payments of long-term debt	(2,930,000)		(4,023,675)
Net cash provided by financing activities	42,900,488	3,764,686	20,554,084
Net increase (decrease) in cash and cash equivalents	9,989,686	(9,739,361)	(8,998,193)

Cash and cash equivalents, beginning of year	14,479,322	24,218,683	33,216,876
Cash and cash equivalents, end of year	$ 24,469,008	$ 14,479,322	$ 24,218,683
Supplemental cash flow information:			
Cash paid for interest	$ 2,802,858	$ 2,625,000	$ 2,690,467
Non-cash investing and financing activities:			
Issuance of senior secured convertible notes as payment in-kind for interest	$ 2,235,883	$ 2,067,200	$ 333,333
Issuance of note receivable for assignment of certain patent applications	$ 2,619,325	$	$

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 and under review by the European Medicines Agency for the treatment of kidney cancer patients with earlier-stage disease. 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 and is currently in a Phase 2 clinical trial in recurrent 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. Our business activities have included product research and development, intellectual property prosecution, manufacturing therapeutic vaccines for clinical trials, 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. We are conducting clinical trials in various cancer indications and in one infectious disease indication. Part of our strategy is to develop and commercialize some of our product candidates by continuing our existing collaborative 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, 2008, we had an accumulated deficit of $527.3 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, based on our current plans and activities, that our working capital resources at December 31, 2008, anticipated revenues, and the estimated proceeds from our license, supply, and collaborative agreements will be sufficient to satisfy our liquidity requirements into 2010. We closely monitor our cash needs. Should certain of our anticipated revenues not prove to be commercially feasible by the end of the second quarter of 2009, we will discontinue funding of the related activities. 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. Satisfying long-term liquidity needs may require the successful commercialization of our product, Oncophage, and/or one or more partnering arrangements for Oncophage, successful commercialization of QS-21 by our licensees, and potentially successful commercialization of 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 reclassified in order to conform to the current period s presentation.

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(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 Statement of Financial Accounting Standards (SFAS) No. 131, *Disclosures about Segments of an Enterprise and Related Information.*

(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, 2008 and 2007, cash equivalents consist primarily of money market funds.

(e) Investments

We classify investments in marketable securities at the time of purchase. At December 31, 2008 and 2007, all marketable securities are classified as available-for-sale and as such, the investments are recorded at fair value with changes in fair value reported as a component of accumulated other comprehensive loss. Gains and losses on the sale of marketable securities are recognized in operations based on the specific identification method. At December 31, 2008, our investments consisted of institutional money market funds and U.S. treasury bills and at December 31, 2007, our investments consisted of auction rate securities.

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 and 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.

(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.

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(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

We adopted the provisions of SFAS No. 157, *Fair Value Measurements*, effective January 1, 2008, for our financial assets and liabilities. The Financial Accounting Standards Board (FASB) delayed the effective date of SFAS No. 157 until January 1, 2009, with respect to the fair value measurement requirements for non-financial assets and liabilities that are not remeasured on a recurring basis. Under SFAS No. 157, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e., the exit price) in an orderly transaction between market participants at the measurement date. The adoption of SFAS No. 157 did not have a material impact on our consolidated financial statements.

Significant differences can arise between the fair value and carrying amounts of financial instruments that are recognized at historical cost amounts. The estimated fair values of all of our financial instruments, excluding 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. In addition, the fair value of our 5.25% convertible senior notes due 2025 (the 2005 Notes) was estimated based on the most recently available trader quotes. The carrying amount of debt, including current portion, is $68.0 million and $77.5 million at December 31, 2008 and 2007, 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 Securities and Exchange Commission Staff Accounting Bulletin (SAB) No. 104, *Revenue Recognition*, and Emerging Issues Task Force (EITF) Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*. To date, we have recognized no revenue from the sale of commercialized products. For the years ended December 31, 2008, 2007, and 2006, 68%, 68%, and 89%, respectively, of our revenue was earned from one research partner. In addition, 27% of our revenue for the year ended December 31, 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 $(378,000), $8,000, and $50,000 for the years ended December 31, 2008, 2007, and 2006, 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

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when the patient receives treatment, beginning when the patient enrolls in the trial. Research and development expenses also include all expenses related to any grant revenue recognized, as well as the cost of clinical trial materials shipped to our research partners. Research and development costs are expensed as incurred.

(m) Share-Based Compensation

We account for share-based compensation in accordance with the provisions of SFAS No. 123 (revised 2004), *Share-Based Payment* (SFAS No. 123R). 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 grant date fair value estimated in accordance with the original provisions of SFAS No. 123, *Accounting for Stock-Based Compensation*. In addition, share-based compensation expense includes compensation expense for all share-based options granted, modified, or settled after January 1, 2006, based on the grant date fair value estimated in accordance with the provisions of SFAS No. 123R. Under the fair value recognition provisions of SFAS No. 123R, 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.

We have applied the provisions of SAB No. 107, *Share-Based Payment*, in accounting for share-based compensation in accordance with SFAS No. 123R. SAB No. 107 contains the SEC s guidance on certain aspects of SFAS No. 123R and the valuation of share-based payments for public companies. 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 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 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) plus the dilutive effect of outstanding convertible 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 33,126,151 warrants outstanding or issuable, the 7,873,464 outstanding stock options, the 31,620 outstanding shares of series A convertible preferred stock, the 5,250 outstanding shares of series B2 convertible preferred stock, the impact of conversion of our 2005 Notes and our 8% senior secured convertible notes due August 2011 (the 2006 Notes) and vesting of the 966,450 outstanding nonvested shares, 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. In accordance with SFAS No. 142, *Goodwill and Other Intangible Assets*, goodwill is not amortized, but instead tested for

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impairment at least annually. SFAS No. 142 also requires that intangible assets with estimable useful lives be amortized over their respective estimated useful lives to their estimated residual values, and reviewed for impairment in accordance with SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*.

SFAS No. 142 requires us to assess annually 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 on 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.

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 account for asset retirement obligations in accordance with SFAS No. 143, *Accounting for Asset Retirement Obligations*. SFAS No. 143 requires us to 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

SFAS No. 144 requires that long-lived assets, except goodwill and intangible assets not being amortized, be reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used 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. SFAS No. 144 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

We adopted the provisions of SFAS No. 157, Fair Value Measurements, effective January 1, 2008, for our financial assets and liabilities. SFAS No. 157 establishes 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

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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.

The Company s short-term investments are comprised of U.S. Treasury securities that are valued using quoted market prices with no valuation adjustments applied. Accordingly, these securities are categorized in Level 1. The fair value of the U.S. Treasury securities at December 31, 2008, excluding accrued interest, was approximately $10.0 million.

In October 2008, the FASB issued FASB Staff Position (FSP) No. FAS 157-3, *Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active*, which clarifies the application of SFAS No. 157 when the market for a financial asset is inactive. Specifically, FSP FAS 157-3 clarifies how (1) management s internal assumptions should be considered in measuring fair value when observable data are not present, (2) observable market information from an inactive market should be taken into account, and (3) the use of broker quotes or pricing services should be considered in assessing the relevance of observable and unobservable data to measure fair value. The guidance in FSP FAS 157-3 is effective immediately and applies to us in applying SFAS No. 157.

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities.* SFAS No. 159 provides companies with the option to measure specified financial instruments and certain other items at fair value. We adopted the provisions of SFAS No. 159 as of January 1, 2008 and have elected not to measure any additional financial instruments and other items at fair value.

In December 2007, the FASB issued SFAS No. 141 (revised 2007), *Business Combinations* (SFAS No. 141R). This revised standard expands the types of transactions or other events that will qualify as business combinations and requires that all business combinations will result in all assets and liabilities of the acquired business being recorded at their fair values, with limited exceptions. The standard also requires, among other provisions, that certain contingent assets and liabilities will be recognized at their fair values on the acquisition date. An acquirer will also recognize contingent consideration at its fair value on the acquisition date and, for certain arrangements, changes in fair value will be recognized in earnings until the contingency is settled. Under SFAS No. 141R, acquisition-related transaction and restructuring costs will be expensed rather than treated as part of the purchase price allocation process. SFAS No. 141R is required to be applied prospectively to business combinations for which the acquisition is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008, and may not be early adopted.

In December 2007, the FASB issued SFAS No. 160, *Noncontrolling Interests in Consolidated Financial Statements*. SFAS No. 160, which is effective for fiscal years, and interim periods within those fiscal years,

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beginning on or after December 15, 2008, governs the accounting for and reporting of noncontrolling interests in partially owned consolidated subsidiaries and the loss of control in subsidiaries. The provisions of SFAS No. 160 will be applied to transactions on a prospective basis once adopted.

In March 2008, the FASB issued SFAS No. 161, *Disclosures about Derivative Instruments and Hedging Activities*. SFAS No. 161, which is effective for fiscal years, and interim periods within those fiscal years, beginning after November 15, 2008, is intended to improve financial reporting about derivative instruments and hedging activities by requiring enhanced disclosures to enable investors to better understand their effects on an entity s financial position, financial performance and cash flows. We do not expect that the adoption of SFAS No. 161 will have a material impact on our financial position or results of operations.

In May 2008, the FASB issued FSP Accounting Principles Board (APB) 14-1, *Accounting for Convertible Debt Instruments That May Be Settled in Cash upon Conversion (Including Partial Cash Settlement)*, which is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2008. FSP APB 14-1 clarifies that convertible debt instruments that may be settled in cash upon conversion are not addressed by paragraph 12 of APB Opinion No. 14, *Accounting for Convertible Debt and Debt Issued with Stock Purchase Warrants*. FSP APB 14-1 also specifies that issuers of such instruments 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 are currently evaluating the effect of FSP APB 14-1, and we have not yet determined the impact of the standard on our financial position or results of operations.

In June 2008, the FASB ratified the consensus in EITF Issue No. 07-5, *Determining Whether an Instrument (or Embedded Feature) Is Indexed to an Entity s Own Stock*, which is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years. EITF Issue No. 07-5 defines when adjustment features within contracts are considered to be equity-indexed. We are currently evaluating the effect of EITF Issue No. 07-5, and we have not yet determined the impact of the standard on our financial position or results of operations.

(3) Inventories

Inventories are stated at cost using the first-in, first-out method. The components of inventories are as follows (in thousands).

	December 31, 2008	December 31, 2007
Work in process	$ 194	$ 414
Finished goods	32	97
	$ 226	$ 511

(4) Investments

Cash Equivalents and Short-term Investments

Investments consisted of the following at December 31, 2008 and 2007 (in thousands).

	2008		2007	
	Cost	Estimated Fair Value	Cost	Estimated Fair Value
Institutional money market funds	$ 22,095	$ 22,095	$ 15,082	$ 15,082
U.S. treasury bills	9,994	9,994		
Auction rate securities			4,200	4,200
	$ 32,089	$ 32,089	$ 19,282	$ 19,282

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Proceeds from maturities of available-for-sale securities amounted to $24.1 million, $22.8 million, and $21.1 million for the years ended December 31, 2008, 2007, and 2006, respectively. No available-for-sale securities were sold before their maturity in 2008, 2007, or 2006. 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, 2008. The change in net unrealized holding gains included in comprehensive loss amounted to $22,000 and $66,000 for the years ended December 31, 2007 and 2006, respectively. As a result of the short-term nature of our investments, there were no unrealized holding gains or losses as of December 31, 2008 and 2007.

Of the investments listed above, $22.1 million and $15.1 million have been classified as cash equivalents on our consolidated balance sheet at December 31, 2008 and 2007, respectively. Approximately $10.0 million and $4.2 million were classified as short-term investments at December 31, 2008 and 2007, respectively.

Long-term Investments

On May 18, 2000, we committed $3.0 million to become a limited partner in a limited partnership called Applied Genomic Technology Capital Fund (AGTC), which invests principally in companies that apply genomic technologies and information in their offerings of products and services or that are engaged in research and development involving genomic technologies. This investment was accounted for under the cost method, as our ownership interest was approximately 2%.

In order to assess whether or not there was an other than temporary decline in the value of this investment, we analyzed several factors, including: (1) the carrying value of the limited partnership s investments in its portfolio companies, (2) how recently the investments in the portfolio companies have been made, (3) the post-financing valuations of those investments, (4) the level of uninvested capital held by the limited partnership, and (5) overall trends in venture capital valuations. We entered into a formal plan in December 2006 to sell our limited partner interest in AGTC, identified potential buyers, and received offers. As a result, we concluded that an other than temporary decline in the value of this investment had occurred as of December 31, 2006 and we reduced the carrying value (the cost of our investment in this partnership) by $806,000 to $1.5 million at December 31, 2006. This impairment charge was included in general and administrative expense.

On January 9, 2007, we contributed the final capital call of $165,000 to AGTC, and on February 2, 2007, we completed the sale of our limited partner interest in AGTC to an accredited investor and received $1.7 million. No gain or loss was realized on this sale in 2007.

The management company for AGTC is NewcoGen Group Inc., which is a wholly-owned subsidiary of Flagship Ventures Management, Inc. Noubar Afeyan, Ph.D., who was one of our directors, is Managing Partner and Chief Executive Officer of Flagship. In addition, Garo H. Armen, Ph.D., our Chairman and Chief Executive Officer, was a director of NewcoGen Group Inc. until 2004.

(5) Plant and Equipment

Plant and equipment at December 31, 2008 and 2007 consists of the following (in thousands).

	2008	2007	Estimated Depreciable Lives
Furniture, fixtures, and other	$ 1,648	$ 1,646	3 to 10 years
Laboratory and manufacturing equipment	6,983	6,892	4 to 10 years
Leasehold improvements	22,730	22,665	2 to 12 years
Software and computer equipment	6,055	6,029	3 years
	37,416	37,232	
Less accumulated depreciation and amortization	(25,881)	(22,628)	
	$ 11,535	$ 14,604	

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Plant and equipment, net that was retired and removed from the accounts aggregated $4,000 and $5,000 for the years ended December 31, 2008 and 2007, respectively.

(6) Other Intangible Assets

The following table presents certain information on our intangible assets as of December 31, 2008 and 2007 (in thousands).

	Weighted Average Amortization Period	As of December 31, 2008 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	As of December 31, 2007 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Amortizing intangible assets:							
Core and developed technology	10 years	$ 11,073	$ 8,646	$ 2,427	$ 11,073	$ 7,539	$ 3,534

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, 2008, 2007, and 2006. Amortization expense is estimated at $1.1 million for 2009 and 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 2005 through 2008. 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 2004 and prior. However, net operating losses from the tax year 2004 and prior would be subject 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, 2008, we have available net operating loss carryforwards of $459.5 million and $274.7 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 2009 and 2028. These net operating loss carryforwards include $72.6 million for federal income tax purposes that was acquired in our prior mergers. Our ability to use such 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 2028, and 2015 and 2023, respectively. The potential impacts of such provisions are among the items considered and reflected in management s assessment of our valuation allowance requirements.

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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, 2008 and 2007 are presented below (in thousands).

	2008	2007
Deferred tax assets:		
Net operating loss carryforwards	$ 172,500	$ 170,210
Research and development tax credits	12,864	13,025
Other	12,151	10,251
Total deferred tax assets	197,515	193,486
Less: valuation allowance	(196,546)	(192,075)
Net deferred tax assets	969	1,411
Deferred tax liabilities	(969)	(1,411)
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 increased by $4.5 million during the year ended December 31, 2008 and increased by $13.8 million during the year ended December 31, 2007. 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. Of the deferred tax assets related to the Federal net operating loss carryforwards, $24.7 million relates to net operating loss carryforwards acquired in our mergers, as of December 31, 2008.

Income tax benefit was nil for each of the years ended December 31, 2008, 2007, and 2006, 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).

	2008	2007	2006
Computed expected Federal tax benefit	$ (9,757)	$ (12,510)	$ (17,639)
(Increase) reduction in income taxes benefit resulting from:			
Change in valuation allowance	4,471	13,786	19,033
Increase due to FIN 48 (as defined below)	4,615		
State and local income benefit, net of Federal income tax benefit	(1,674)	(2,184)	(3,082)
Other, net	2,345	908	1,688
	$	$	$

The change in valuation allowance in the table above includes the expiration of Federal and state net operating loss carryovers, and loss of net operating loss carryovers due to corporate restructuring.

We adopted FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes an interpretation of FASB Statement No. 109* (FIN 48) as of January 1, 2007. At the adoption of FIN 48 and as of December 31, 2007, total uncertain tax positions were immaterial and accordingly, no adjustments to the consolidated financial

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statements were required. As of December 31, 2008, our gross unrecognized tax benefits totaled $5.1 million. 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, 2007	$
Increase related to previously recognized positions	5,060
Balance, December 31, 2008	$ 5,060

(8) Accrued Liabilities

Accrued liabilities consist of the following at December 31, 2008 and 2007 (in thousands).

	2008	2007
Professional fees	$ 1,105	$ 1,358
Accrued interest	841	1,108
Clinical contractors	628	717
Payroll	587	1,045
Clinical trials	207	593
Other	1,251	963
	$ 4,619	$ 5,784

(9) Equity

Our authorized capital stock consists of 250,000,000 shares of $0.01 par value per share common stock at December 31, 2008 and 2007, 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 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, 2008.

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

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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. On April 25, 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. 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. 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 SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities,* and EITF Issue No. 00-19, *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company s Own Stock.*

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.

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 SEC declared the resale registration statement effective on February 14, 2008. Shares issuable under the unit warrants have not been registered as of this time.

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.

As part of the private placement agreements for both the January 2008 and April 2008 private placements, 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. Given that, upon our filing of the 2008 Annual Report on Form 10-K, we will cease to be eligible to register the

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resale of the shares from both the January 2008 and April 2008 private placements on Form S-3, we filed a post-effective amendment on Form S-1 to each of the resale registration statements for the January 2008 and April 2008 private placements. Based on our discussions with the SEC, we expect the SEC to declare each of these post-effective amendments effective upon the filing of this Annual Report on Form 10-K or shortly thereafter. 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 $4.4 million as of December 31, 2008.

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 will be used for general corporate purposes. This offering was made under an effective shelf registration statement.

During the years ended December 31, 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 Equity Plan), authorized the withholding of an aggregate of 137,078 shares 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 Equity Plan authorizes awards of incentive stock options within the meaning of Section 422 of the Internal Revenue Code, non-qualified stock options, nonvested (restricted) stock, and unrestricted stock for up 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 Equity Plan. The Board of Directors appointed the Compensation Committee to administer the 1999 Equity Plan.

Under the 1999 Employee Stock Purchase Plan, as amended (the 1999 ESPP), employees may purchase shares of common stock at a discount from fair value. There are 450,000 shares of common stock reserved for issuance under the 1999 ESPP. The 1999 ESPP is intended to qualify as an employee stock purchase plan within the meaning of Section 423 of the Internal Revenue Code. Rights to purchase common stock under the 1999 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 will not be less than 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, or a combination of both. The plan terminates on November 15, 2009. From inception through December 31, 2008, 437,025 shares of common stock have been purchased under the plan.

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 to a stock account. There are 250,000 shares of our common stock reserved for issuance under this plan. As of December 31, 2008, 77,567 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 Global Market. Pursuant to this plan, 128,171 units, each

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representing a share of our common stock at a weighted average common stock price of $2.33, were credited to participants stock accounts as of December 31, 2008. The compensation charges for this plan were immaterial for all periods presented.

Stock options granted to non-employees are accounted for based on the fair-value method of accounting in accordance with SFAS No. 123R and EITF Issue No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services.* 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.

Certain of our fully vested options granted to non-employees are outside the scope of SFAS No. 123R and are subject to EITF Issue No. 00-19, which requires that stock options held by certain non-employee consultants be accounted for as liability-classified awards. The fair value of these vested and unexercised awards was estimated using the Black-Scholes option pricing model, and $1.7 million was reclassified from equity to a current liability as of January 1, 2006. The fair value of the award is remeasured at each financial statement date until the award is exercised or expires. During the years ended December 31, 2008, 2007, and 2006, we recorded noncash credits of $297,000, $525,000, and $1.3 million, respectively, based on the remeasurement of these awards. We also reclassified an additional liability of $101,000, $566,000, and $64,000 during the years ended December 31, 2008, 2007, and 2006, respectively, based on the vesting of certain of these awards. Non-employees exercised stock options to acquire 64,612 shares of common stock at an exercise price of $1.45 during the year ended December 31, 2006 and the total liability of $216,000 as of the exercise dates was reclassified to equity. No non-employee options were exercised during the years ended December 31, 2008 and 2007. As of December 31, 2008, fully vested stock options to acquire approximately 623,000 shares of common stock held by non-employee consultants were accounted for as liability-classified awards ($37,000) and remained unexercised.

We use the Black-Scholes option pricing model to value options granted to 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 fair value of each option granted during the periods is estimated on the date of grant with the following weighted average assumptions:

	2008	2007	2006
Expected volatility	71%	71%	70%
Expected term in years	5	6	5
Risk-free interest rate	2.8%	4.5%	4.5%
Dividend yield	0%	0%	0%

Expected volatility is based exclusively on historical volatility data of the Company s 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.

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A summary of option activity for 2008 is presented below:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2007	6,782,901	$ 5.75		
Granted	1,705,632	1.66		
Exercised	(28,468)	1.64		
Forfeited	(223,248)	2.75		
Expired	(363,353)	5.02		
Outstanding at December 31, 2008	7,873,464	$ 5.00	6.6	$ 972
Vested or expected to vest at December 31, 2008	7,459,770	$ 5.15	6.5	$ 841
Exercisable at December 31, 2008	4,549,668	$ 6.91	5.2	$ 319

The weighted average grant-date fair values of options granted during the years ended December 31, 2008, 2007, and 2006 was $1.03, $1.57, and $2.21, respectively.

The aggregate intrinsic value in the table above represents the difference between our closing stock price on the last trading day of fiscal 2008 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, 2008. 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, 2008 and 2006, determined on the dates of exercise, was $21,000 and $915,000, respectively. No options were exercised during the year ended December 31, 2007.

During 2008, 2007, and 2006, all options were granted with exercise prices equal to the market value of the underlying shares of common stock on the grant date.

As of December 31, 2008, $3.0 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 2.4 years.

As of December 31, 2008, 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 $56,000. 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. In accordance with SFAS No. 123R, the fair value of nonvested stock is calculated based on the closing sale price of the Company s common stock on the date of issuance.

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A summary of nonvested stock activity for 2008 is presented below:

	Nonvested Shares	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2007	440,878	$ 2.03
Granted	1,318,282	1.48
Vested	(766,990)	1.69
Forfeited	(25,720)	1.99
Outstanding at December 31, 2008	966,450	1.54

As of December 31, 2008, there was $376,000 of unrecognized share-based compensation expense related to these nonvested shares. This cost is expected to be recognized over a weighted average period of 2.5 years. The total intrinsic value of shares vested during the years ended December 31, 2008 and 2007 was $1.3 million and $35,000, respectively. No shares vested during the year ended December 31, 2006.

Cash received from option exercises and purchases under our 1999 ESPP for the years ended December 31, 2008, 2007, and 2006 was $333,000, $78,000, and $469,000, respectively. We issue new shares upon option exercises, purchases under our 1999 ESPP, vesting of nonvested stock, and under the Director s Deferred Compensation Plan. During the years ended December 31, 2008, 2007, and 2006, 171,113 shares, 48,813 shares, and 66,875 shares were issued under the 1999 ESPP, respectively. 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. 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. No such shares were issued during the year ended December 31, 2006. The shares withheld were recorded as treasury stock using the cost method, at weighted average prices of $1.88 per share and $2.04 per share during the years ended December 31, 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 $258,000 and $12,000, respectively.

For the years ended December 31, 2008 and 2007, 61,938 shares and 15,629 shares were issued under our Directors Deferred Compensation Plan. No such shares were issued during the year ended December 31, 2006.

The impact on our results of operations from share-based compensation was as follows (in thousands).

	2008	2007	2006
Research and development	$ 1,517	$ 892	$ (74)
General and administrative	4,065	2,164	3,110
Total share-based compensation expense	$ 5,582	$ 3,056	$ 3.036

(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. 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,

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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 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. We entered into a sponsored research and technology license agreement with Fordham 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 had a research agreement with UConn under which we paid UConn to sponsor research in Dr. Srivastava s laboratory (the research agreement). Effective December 31, 2006, this agreement was terminated, and a termination fee of $250,000 was paid to UConn in January 2007. Research and development expense in the accompanying 2006 consolidated statement of operations includes $1.4 million of costs incurred under the research agreement. No such costs were incurred in 2008 or 2007.

In addition, 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 $160,000 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 both the research agreement and the license agreement. The amendment agreement granted us a license to additional patent rights. In consideration for execution of the amendment agreement, we agreed to pay UConn an up front payment and to make future payments for licensed patents or patent applications. Through December 31, 2008, we have paid approximately $100,000 to UConn under the license agreement, as amended. The termination of the research agreement did not affect our license rights under the license agreement.

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

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of certain services, we have estimated our payments to be $47.9 million over the term of the studies. For the years ended December 31, 2008, 2007, and 2006, $123,000, $1.5 million, and $3.7 million, respectively, have been expensed in the accompanying consolidated statements of operations related to these clinical studies. Through December 31, 2008, $45.5 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. 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 up-front 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 its future sales of licensed vaccines that include QS-21.

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 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 GSK supply agreement. In conjunction with the GSK license agreement and the GSK supply agreement, we

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received a $3.0 million up-front non-refundable payment in July 2006. In February 2007, we achieved a milestone related to the transfer of manufacturing technologies to GSK and received a payment of $2.0 million.

On July 20, 2007, we executed a letter with GSK amending the GSK supply agreement to accelerate GSK s commercial grade QS-21 manufacturing rights previously granted in July 2006. Accordingly, from the effective date of the 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 letter, 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 letter, we received a $2.0 million up-front non-refundable payment from GSK in August 2007, in lieu of a milestone payment that would have otherwise been payable under the GSK supply agreement. In addition, GSK agreed to make payments to us totaling $5.25 million through December 2012, for manufacturing profits that were anticipated to have otherwise been payable under the GSK supply agreement, and we received the first such payment in the amount of $1.75 million in December 2008. Except as expressly provided in the letter, all other financial obligations of GSK under the GSK supply agreement, including royalty payments, remain unchanged. The letter does not affect the rights and obligations of the parties under the July 6, 2006 GSK license agreement.

During the years ended December 31, 2008 and 2007, we recognized revenue of $1.3 million and $2.8 million, respectively, related to these payments. Deferred revenue of $4.5 million related to our agreement with GSK is included in deferred revenue on our consolidated balance sheet as of December 31, 2008.

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.

(12) Certain Related Party Transactions

We currently have QS-21 license and supply agreements with Elan for use of QS-21 with an antigen in the field of Alzheimer s disease. Garo H. Armen, Ph.D., our Chairman and Chief Executive Officer, was a director of Elan until May 2006. During the year ended December 31, 2007, we recognized revenue of $1.0 million for a milestone payment from Elan related to the initiation of a Phase 2 study of Elan s Alzheimer s disease vaccine that contains QS-21. For the years ended December 31, 2008 and 2006, no revenues were earned under these agreements. No amounts were due to us under these agreements, as of December 31, 2008 and 2007.

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 vest over four years and are exercisable at $6.92 per share.

In September 2004, we entered into a $60,000 one-year service agreement with Techsoft, Inc. d.b.a Medical Systems and NG Techsoft Pvt. Ltd. for data management services. Navin Gupta is the President and Chief Executive Officer of Techsoft, Inc. d.b.a Medical Systems and the Director and Chairman of the Board of NG

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Techsoft Pvt. Ltd. He also is the spouse of Renu Gupta, our former Senior Vice President of Development. This agreement was extended several times during 2005 to obtain additional data management and processing services and expired in May 2006. For the year ended December 31, 2006, we expensed $125,000 under this agreement. At December 31, 2008, we owed no amounts under this agreement.

On January 9, 2008, we entered into the January 2008 private placement agreement 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 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.

(13) Leases

We lease manufacturing, research and development, and office facilities under various long-term lease arrangements. Rent expense (before sublease income) included in net loss was $2.9 million, $3.1 million, and $3.3 million for the years ended December 31, 2008, 2007, and 2006, 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,	
2009	$ 3,108
2010	2,915
2011	2,224
2012	2,141
2013	1,406
Total	$ 11,794

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, 2008. 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 $1.2 million in 2009 and $863,000 in 2010. For the years ended December 31, 2008, 2007, and 2006, we received sublease rental payments of $1.2 million, $1.1 million, and $1.2 million, respectively, with respect to our subleased facilities.

(14) Debt

As of December 31, 2008, we have $68.0 million of debt outstanding; $146,000 currently due, $29.6 million due 2011 and $38.2 million due 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

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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, 2008 and 2007, we issued additional 2006 Notes in the amount of $2.2 million and $2.1 million respectively as payment for interest due.

The 2006 Notes are convertible into our common stock at an initial fixed conversion price of $3.50 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 Equity Plan, 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.

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.

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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.

The fair value of the 2006 Notes is estimated to be $26.6 million at December 31, 2008.

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 of these 2005 Notes for $2.9 million plus accrued interest of $178,000. We recorded a gain of $8.6 million in non-operating income, which is net of related debt issuance costs that were relieved. 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,

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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 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.

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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 Global 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 Rule 13d-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

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(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 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

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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, 2008, the Company could issue between 0 and 39.53 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 Global 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 Global 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 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).

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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 Global 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. We were obligated until January 25, 2007 to keep effective a shelf registration statement with the SEC for resale of the 2005 Notes and the shares of common stock issuable upon conversion of the 2005 Notes by the holders thereof. Failure to do so could have resulted in an obligation to pay additional interest to each holder of registrable securities who was affected.

The fair value of the 2005 Notes is estimated to be $9.3 million at December 31, 2008 based on trader quotes.

Under SFAS No. 133, the conversion features of our convertible notes are essentially call options on our stock. Because the options are indexed to our own stock and a separate instrument with the same terms would be classified in stockholders deficit in our consolidated balance sheet, the options are not considered to be derivative instruments and should not be separated from the host contracts. Accordingly, the conversion features of these convertible notes are not bifurcated from either of the notes.

Other

At December 31, 2008, 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) 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

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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 denied the defendants motion to dismiss the amended complaints. It is uncertain whether there will be any revised or future settlement. To date, the plaintiffs have not asserted a specific amount of damages and, at this time, we cannot make a reliable estimate of possible loss, if any, related to this litigation. Accordingly, no accrual has been recorded at December 31, 2008.

We currently are a party, 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.

(16) 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, with a maximum contribution of $15,500 for individuals under 50 years old and $20,500 for individuals 50 years old and older in 2008. 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. Such matching contributions vest over four years. For the years ended December 31, 2008, 2007, and 2006, we expensed $163,000, $176,000, and $213,000 for the Company s contributions to the 401(k) plan.

(17) Restructuring Costs

In December 2005, we updated our business strategy and refocused our programs and priorities, including the postponement and deceleration of a number of our projects. These actions resulted in charges of $990,000 being recorded in December 2005 and $112,000 being recorded during the quarter ended March 31, 2006. In April 2006, we commenced the implementation of a plan to further restructure, refocusing our programs and priorities with the goal of reducing our net cash burn (defined as cash used in operating activities plus capital expenditures, debt repayments, and dividend payments). We recorded charges of $645,000 at that time, resulting in total charges of $757,000 for the year ended December 31, 2006.

During 2006, we also wrote-off certain assets that were determined to not be required for our updated business strategy. This resulted in impairment charges of $617,000.

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(18) Quarterly Financial Data (Unaudited)

	Quarter Ended,			
	March 31,	June 30,	September 30,	December 31,
	(In thousands, except per share data)			
2008				
Revenue	$ 850	$ 595	$ 685	$ 521
Net (loss) income	(11,071)	(11,954)	(10,932)	5,259
Net (loss) income attributable to common stockholders	(11,268)	(12,152)	(11,129)	5,061
Per common share, basic and diluted:				
Net (loss) income attributable to common stockholders	$ (0.20)	$ (0.19)	$ (0.17)	$ 0.08

	Quarter Ended,			
	March 31,	June 30,	September 30,	December 31,
	(In thousands, except per share data)			
2007				
Revenue	$ 2,353	$ 1,443	$ 863	$ 893
Net loss	(8,696)	(9,853)	(10,786)	(7,460)
Net loss attributable to common stockholders	(8,894)	(10,050)	(10,984)	(7,658)
Per common share, basic and diluted:				
Net loss attributable to common stockholders	$ (0.19)	$ (0.22)	$ (0.24)	$ (0.16)

Net (loss) income attributable to common stockholders per share is calculated independently for each of the quarters presented. Therefore, the sum of the quarterly net loss per share amounts will not necessarily equal the total for the full fiscal year.

(19) Subsequent Event

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 current market conditions and to focus our resources on near-term commercial opportunities. We estimate that we will incur roughly $200,000 in severance and outplacement expenses related to this restructuring in the quarter ending March 31, 2009. All of these expenses will result in future cash outlays, most of which will be paid by March 31, 2009.

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Item 9. ***Changes in and Disagreements With Accountants on Accounting and Financial Disclosure***
Not applicable.

Item 9A. ***Controls and Procedures***
Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) promulgated under the Securities Exchange Act. Based on this evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures were functioning effectively as of the end of the period covered by this Annual Report on Form 10-K to provide reasonable assurance that the Company can meet its disclosure obligations.

Management s Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Securities Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework, our management concluded that our internal control over financial reporting was effective as of December 31, 2008.

KPMG LLP, our independent registered public accounting firm, has issued their report, included herein, on the effectiveness of our internal control over financial reporting.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the fourth quarter of 2008 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders

Antigenics Inc.:

We have audited Antigenics Inc. s internal control over financial reporting as of December 31, 2008, based on criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Antigenics Inc. s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management s Report on Internal Control Over Financial Reporting*. Our responsibility is to express an opinion on the Company s internal control over financial reporting based on our audit.

We conducted our audit 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 effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Antigenics Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2008, based on criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Antigenics Inc. and subsidiaries as of December 31, 2008 and 2007, and the related consolidated statements of operations, stockholders (deficit) equity and comprehensive loss, and cash flows for each of the years in the three-year period ended December 31, 2008, and our report dated March 16, 2009 expressed an unqualified opinion on those consolidated financial statements.

/s/ KPMG LLP

Boston, Massachusetts

March 16, 2009

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Item 9B. ***Other Information***
None.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***
The names, ages and biographies of our executive officers are included immediately following Part I, Item 4 of this Annual Report on Form 10-K. The names, ages and biographies of our directors are as follows:

Wadih Jordan Age: 74 President of NearEast Pharma *Director since 2003*	Mr. Jordan is President of NearEast Pharma, a company marketing pharmaceuticals in Near East markets, including Lebanon, Turkey, Saudi Arabia, Egypt and the Gulf countries, and has served in such position since 1996. From 1993 to 1995, Mr. Jordan served as a Vice President of Cyanamid International, a research-based life sciences company, and from 1976 to 1993, Mr. Jordan served as a Managing Director within Cyanamid International. Since December 2005, Mr. Jordan has served as a member of the board of directors at Pollex S.A.L., a company that specializes in the distribution and marketing of BASF products in the Middle East and North Africa. Since December 2003, Mr. Jordan has been a trustee of the Board of Directors of the Lebanese American University, located in Beirut, Lebanon, and incorporated under the Board of Regents in New York State. Mr. Jordan received a bachelor s degree in agriculture at the American University of Beirut, Lebanon, and a certificate in international business from Columbia University.
Compensation Committee *(Chair)*	
Hyam I. Levitsky, M.D. Age: 50 Professor, Johns Hopkins University Medical Center *Director since 2006*	Dr. Levitsky is Professor of Oncology, Medicine & Urology at The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins. Dr. Levitsky has been a professor at Johns Hopkins since 1991, and his laboratory research has focused on basic studies of antigen processing and presentation, T-cell co-stimulation, T-cell priming versus tolerance, and the evolution of tumor-specific immunity during immune reconstitution. Dr. Levitsky s work has been translated into the creation of novel therapeutic agents that are being tested in patients with multiple myeloma, acute and chronic myelogenous leukemia, B cell lymphomas, prostate cancer, and lung cancer. His work on manipulating immune reconstitution has led to pivotal trials of tumor vaccines in the context of autologous stem cell transplantation, and he has served as scientific director of the George Santos Bone Marrow Transplant Program at Johns Hopkins. Dr. Levitsky received his undergraduate degree in engineering from the University of Pennsylvania in 1980, and his medical degree from the Johns Hopkins University School of Medicine in 1984. He did his internship and residency in internal medicine at Johns Hopkins Hospital, and his fellowship at the Johns Hopkins Oncology Center.
(a) Corporate Governance and *Nominating Committee* *(b) Research and Development* *Committee (Chair)*	

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Brian Corvese

Age: 51

President and Founder of

Vencor Capital

Director since 2007

Audit and Finance Committee (Chair)

Brian Corvese is President and Founder of Vencor Capital, a private equity firm with telecommunications and technology investments in the Middle East and Mediterranean regions. Prior to Vencor, Mr. Corvese worked on investments in the U.S. and global equity markets as a Managing Director and partner at Soros Fund Management, the largest hedge fund in the world at the time. From 1988 to 1996, Mr. Corvese was a partner at Chancellor Capital Management, a $25 billion money management firm. While at Chancellor, Mr. Corvese was a Portfolio Manager with responsibility for investments made in basic industries, restructurings, and special situations, corporate governance investments, as well as founded and managed his own hedge fund. From 1981 to 1988, Mr. Corvese was with Drexel Burnham Lambert as an equity analyst following the chemical and specialty chemical industries and participated in a significant number of merger and acquisition activities. While at Drexel, Mr. Corvese was a member of the top chemical and specialty chemical research team, as ranked by Institutional Investor. Mr. Corvese currently serves on the board of directors of the National Telecommunications Corporation, based in Cairo, Egypt. Mr. Corvese earned degrees in finance and political science from The University of Rhode Island and attended New York University Graduate School.

Timothy R. Wright

Age: 51

President of Imaging

Solutions and

Pharmaceutical Products,

Covidien

Director since 2006

(a) Compensation Committee

(b) Corporate Governance and

Nominating Committee

(c) Research and Development Committee

Mr. Wright is President of the Imaging Solutions and Pharmaceutical Products Sector of Covidien. Covidien is a $10 billion global leader in medical devices and supplies, diagnostic imaging agents, pharmaceuticals and other healthcare products. Mr. Wright brings to the Antigenics Board 25 years of pharmaceutical industry experience in general management, product development and commercialization as well as business restructuring and transaction experience. From April 2004 to May 2006, Mr. Wright was President and interim CEO of AAI Pharma, a hybrid pharmaceutical, drug delivery/manufacturing, and global clinical research organization. Mr. Wright was also President of Elan Bio-Pharmaceuticals and has held several senior management positions with Cardinal Health Inc. and Dupont Merck Pharmaceutical Company. Mr. Wright has served on several boards of directors, including those for AAI Pharma and CeNes Pharmaceuticals. Mr. Wright earned his bachelor s degree from the Ohio State University.

Tom Dechaene

Age: 48

Director, Transics N.V.

Director since 1999,

Mr. Dechaene is a consultant to various TMT (telecom, media and technology) and life sciences companies. Since 2007, Mr. Dechaene has served on the board and is a member of the audit committee of Transics NV, a company listed on NYSE Euronext and which develops and markets fleet management solutions for the transport and logistics sector. Mr. Dechaene was a director of Telindus N.V., listed on Euronext, from 2005 until its acquisition by Belgacom in 2006. Since 2006, Mr. Dechaene has been a director of the Telindus Foundation in the Netherlands. From 2000 to 2002, Mr. Dechaene was the Chief Financial Officer of SurfCast Inc., a software development company. He was with Deutsche Bank from 1991 through 1999, most recently as a director in the principal investments group within the equity capital markets division. Mr. Dechaene holds a law degree from the Central Exam Commission, Belgium; a degree in applied economics from the University of Antwerp;

Lead Director since 2006 and an MBA from INSEAD, France.

(a) Audit and Finance Committee

(b) Corporate Governance and

Nominating Committee

(Chair)

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John N. Hatsopoulos Age: 75 Chief Executive Officer, American DG Energy Inc. Chief Executive Officer, Tecogen Inc. *Director since 2007*	Mr. Hatsopoulos is Chief Executive Officer of American DG Energy Inc. Headquartered in Waltham, Massachusetts, American DG Energy is a leading on-site utility offering electricity, heat, hot water, and cooling to commercial, institutional and industrial facilities. Mr. Hatsopoulos is also Chief Executive Officer of Tecogen Inc., a leading manufacturer of natural gas, engine-driven commercial and industrial cooling and cogeneration systems. In addition, Mr. Hatsopoulos is Chairman of GlenRose Instruments Inc., a company that provides radiological and environmental services, as well as managing partner of Alexandros Partners LLC, a financial advisory firm. Mr. Hatsopoulos is one of the founders of Thermo Electron Corp. (currently Thermo Fisher Scientific) and the retired President and Vice Chairman of its board of directors. Thermo Fisher Scientific is a leading provider of analytical and monitoring instruments used in a broad range of applications, from life sciences research to telecommunications, food, drug and beverage production. Mr. Hatsopoulos graduated from Athens College in Athens, Greece, in 1953. He holds a BS in history and mathematics from Northeastern University, together with honorary doctorates in business administration from Boston College and Northeastern University. He served on the board of directors of the American Stock Exchange from 1994 through 2000 and the AMEX Nominating Committee from 1990 to 1994. He is currently a member of the board of directors of TEI BioSciences Inc. and AmericanCare Source Holdings Inc., and a Member of the Corporation for Northeastern University.
Audit and Finance Committee *(as of March 12, 2009)*	
Margaret M. Eisen, CFA Age: 55 *Director since 2003* *(a) Audit and Finance Committee* *(b) Compensation Committee*	From 2005 to 2008 Ms. Eisen was Managing Director of Marketing & Communications for CFA Institute. CFA Institute is a global association for investment professionals supporting the well-respected CFA charter as well as the CFA Institute Centre for Financial Market Integrity. Prior to joining CFA Institute in 2005, Ms. Eisen was Chief Executive Officer and Chief Investment Officer of EAM International, LLC which she founded to provide corporate finance and asset management services to entrepreneurs and wealthy individuals. Before forming EAM International, she was Managing Director, North American Equities, for General Motors Investment Management Corp. In that role, she was responsible for portfolios of publicly traded and private equity. Prior to GM, Ms. Eisen was Director of Worldwide Pension Investments for DuPont Asset Management. Currently, she is a member of the Board of Trustees of the Columbia Acorn Family of mutual funds of Columbia Wanger Asset Management and Columbia Wanger Advisors Trust. Ms. Eisen is also a member of the Principal Transaction Committee of One William Street, a hedge fund and private equity firm. From 1998 to 2008, Ms. Eisen served as a member of the Investment Committee of the Board of Trustees of Smith College. Ms. Eisen previously served as Chair of the Institute for Financial Markets and as a Trustee of the Lehman Brothers/First Trust Income Opportunity Fund. Ms. Eisen received her AB degree from Smith College, an M. Ed. from Lesley College, and earned an MBA with Distinction at Babson College. She is a Chartered Financial Analyst.

There are no family relationships between or among any of our executive officers or directors.

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Code of Business Conduct and Ethics

The Board originally adopted our Code of Business Conduct and Ethics (the Code of Ethics) in 2003. The Board reviewed, revised, and updated the Code of Ethics most recently in January 2008. The Code of Ethics applies to all members of the Board and all employees of Antigenics, including our Chief Executive Officer, Chief Financial Officer, Principal Accounting Officer or controller, or persons performing similar functions. Our Code of Ethics prohibits the members of the Board and all employees of Antigenics from buying or selling our securities while in possession of material, non-public information about the Company. Our Code of Ethics is posted on the corporate governance section of our website at *http://www.antigenics.com/investors/governance*. No material on our website is part of this annual report. We intend to post on our website all disclosures that are required by law or NASDAQ stock market listing standards concerning any amendments to, or waivers from, our Code of Ethics. Stockholders may request a free copy of our Code of Ethics by writing to Investor Relations, Antigenics Inc., 3 Forbes Road, Lexington, MA 02421.

Section 16(a) Beneficial Ownership Reporting Compliance

Our executive officers, directors, and 10% stockholders are required under Section 16(a) of the Securities Exchange Act, to file reports of ownership and changes in ownership of our securities with the SEC.

Based solely on a review of the copies of reports furnished to us, we believe that during our 2008 fiscal year, our directors, executive officers, and 10% stockholders complied with all applicable Section 16(a) filing requirements.

Audit and Finance Committee

The Audit and Finance Committee consists entirely of independent directors within the meaning of the NASDAQ stock market listing standards, including the requirements contemplated by Rule 10A-3 of the Securities Exchange Act. The Board has determined that Brian Corvese, Chair of the Committee, Tom Dechaene, John Hatsopoulos and Margaret M. Eisen each qualify as audit committee financial experts. For the entirety of 2008, the Audit and Finance Committee consisted of three independent directors: Mr. Corvese (Chair), Mr. Dechaene, and Ms. Eisen. Mr. Hatsopoulos joined the Audit and Finance Committee on March 12, 2009.

Item 11. *Executive Compensation*

COMPENSATION DISCUSSION AND ANALYSIS

Overview

Our executive compensation and benefits program is designed to effectively attract and retain the highest caliber executives and reward and motivate them to pursue our strategic opportunities while effectively managing the risks and challenges inherent to a development-stage biotechnology company. We have created a compensation package that combines short- and long-term components, cash and equity, and fixed and contingent payments, in the proportions we believe are most appropriate to incent and reward our senior management to strive to achieve the following goals:

- Build a creative and high performance team whose participants understand and share our business objectives and ethical and cultural values.
- Demonstrate leadership and innovation in the identification, development and commercialization of product candidates that fit our strategic objectives.
- Effectively manage the multiple dimensions of our business, from research and development, through clinical trials, manufacturing, strategic alliances, and all aspects of operations in order to maximize the value of each dollar deployed.

Identify and address our short- and long-term financing requirements in a highly strategic and creative manner, and deploy available funds for maximum benefit to our stockholders.

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Our executive compensation strategy not only aims to be competitive in our industry, but also to be fair relative to other professionals within our organization. We seek to foster a performance-oriented culture, where individual performance is aligned with organizational objectives and is tied to the value we deliver to our stockholders.

We continually review our compensation approach in order to ensure our programs reward executives for achieving our goals and objectives that generate results consistent with other development-stage biotechnology companies. At the same time, we seek to align the risks of our executives with the downside to our stockholders if such executive s decisions result in our goals and objectives not being achieved. We evaluate and reward our executives based on their contribution to the achievement of short- and long-term goals and objectives and their capability to take advantage of unique opportunities and overcome difficult challenges within our business.

Role of Our Compensation Committee

Our Compensation Committee approves, administers, and interprets our executive compensation and benefit policies, including our 1999 Equity Incentive Plan (as amended) (the 1999 EIP). Our Compensation Committee is appointed by our Board of Directors, and consists entirely of directors who are outside directors for purposes of Section 162(m) of the Internal Revenue Code of 1986, as amended (the Code) and non-employee directors for purposes of Rule 16b-3 under the Securities Exchange Act. Our Compensation Committee is comprised of Mr. Jordan (Chair), Ms. Eisen, and Mr. Wright.

Our Compensation Committee reviews and makes recommendations to our Board of Directors in an effort to ensure that our executive compensation and benefit program is consistent with our compensation philosophy and corporate governance guidelines. Additionally, the Compensation Committee is responsible for establishing the executive compensation packages offered to our named executive officers. Our executives base salary, target annual bonus levels, and target annual long-term incentive award values are set at competitive levels. Executives have the opportunity to earn above-market pay only for above-market performance as measured against our peer group of companies.

Our Compensation Committee has taken the following steps to ensure that our executive compensation and benefit program is consistent with both our compensation philosophy and our corporate governance guidelines:

- with the assistance of Oyster Pond Associates, our independent executive compensation and benefits consultant, evaluated the competitive level of executive pay as measured against our peer group (see discussion under Compensation Discussion and Analysis Competitive Market Review),
- maintained a practice of reviewing the performance and determining the total compensation earned, paid or awarded to our Chief Executive Officer, and
- reviewed on an annual basis the performance of our other named executive officers and other key employees with assistance from our Chief Executive Officer, and determined what we believe to be appropriate total compensation based on competitive levels as measured against our peer group (see discussion under Compensation Discussion and Analysis Competitive Market Review).

Executive Compensation Program

Components of our Compensation Program

Our performance-driven compensation program consists of the four components listed below:

1. Short-term Compensation
    a. Base Salary

b. Annual Incentive Bonuses

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2. Long-term Compensation

3. Benefits

4. Severance Compensation and Termination Protection

We refer to the combination of base salary, annual adjustments to base salary, and annual incentive bonuses as Short-term Compensation. We use short-term compensation to motivate and reward our key executives in accordance with our performance management process. We have established a goal deployment program to operationalize our strategic priorities, to set and refine Company objectives, and to cascade those objectives throughout the organization.

We balance individual, functional area, and Company-wide goals and achievements. On an individual level, each member of our executive team sets goals, focusing on the categories mentioned above, with an emphasis on measurable and achievable goals. Our goal setting process is participatory. Each executive participates in establishing the objectives of our Company as a whole, and offers his or her views as to the goals of each other functional area, insofar as those goals impact the individual executive s own functional area. We also ask our executives to provide feedback not only on their own performance and that of their particular area, but also of other functional areas and our entire organization. We see this process both as the optimal means of assembling accurate information regarding the expectation and realization of performance, as well as an integral part of our culture of collaborative, team-oriented management.

In 2008, our Company goals included:

Oncophage

Register and commercialize Oncophage in Russia

File for registration in Europe

Clarify registration strategy in Glioma and complete enrollment in our Phase 2 trial

QS-21

Ensure agreements with all licensees are monitored and supported

Raise the profile of QS-21 in the context of Antigenics overall value proposition to maximize stockholder value

General Research

Continue to advance the development of our preclinical pipeline and new technologies that improve our clinical programs

General Finance and Administration

Ensure the availability and effective allocation of financial, human and other resources as required to achieve our strategic priorities

Raise a minimum of $30 million

Each year we evaluate the achievement of Company goals and objectives, functional area goals and individual executive performance. At the end of the year, we review final performance results versus our goals and objectives and begin discussions regarding goals and objectives for the next fiscal year. Incentive compensation, based on the achievement of goals and objectives, may be awarded in the form of an annual performance bonus and equity-based awards. Our annual incentive bonus rewards for the achievement of annual

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goals and objectives. Equity-based awards are used to align the interests of our executives with those of our stockholders and to promote a long-term performance perspective and progress toward achieving our long-term strategy.

Our senior executives total compensation may vary significantly year to year based on Company, functional area and individual performance. Further, the value of equity awards made to our senior executives will vary in value based on our stock price performance.

1. Short-term Compensation.

Our short-term compensation program consists of base salary and annual incentive bonuses. Base salary will typically be used to recognize the experience, skills, knowledge, and responsibilities required of each executive officer, as well as competitive market conditions.

a. Base Salary: Base salaries for our executives are generally positioned at or around the 60th percentile versus our peer group (see Competitive Market Review for further information on the peer group). In establishing the base salaries of the named executive officers, our Compensation Committee and management take into account a number of factors, including the executive s seniority, position and functional role, and level of responsibility.

For newly hired personnel, we consider the base salary of the individual at his or her prior employment and any unique personal circumstances that motivated the executive to leave that prior position and join our Company. In addition, we consider the competitive market for corresponding positions within comparable companies of similar size and stage of development.

For individuals newly promoted to the position, as with individuals newly employed from outside the Company, we consider the competitive market and their prior salary and experience. Where these individuals may not have the same level of experience at the time of promotion as a counterpart hired from outside the Company, we may define a multi-step approach to bringing their salaries in line with targeted levels. Salary increases at each of these points in time will be contingent on the continuing good performance of the individual.

The base salary of our named executive group is reviewed on an annual basis, and adjustments are made to reflect performance-based factors, as well as competitive conditions. Increases are considered within the context of our overall annual financial constraints before more specific individual and market competitive factors are considered. We do not apply specific formulas to determine increases. Generally, executive salaries are reviewed in the fourth quarter and adjusted effective January 1 of each year.

b. Annual Incentive Bonuses: Annual incentive bonuses for our officers are based on the achievement of the Company s annual goals and objectives and functional area goals, as well as individual performance objectives as outlined in our 2003 Executive Incentive Plan. Awards under the program are based on a qualitative review of the facts and circumstances related to Company and departmental, functional and individual performance when determining each individual s annual incentive bonus. An individual may receive an award from zero to 150% of his or her target bonus based on the review of results. Generally, the annual incentive bonus is paid in cash. However, in an effort to conserve cash, the Compensation Committee elected to deliver a substantial portion of the executive s annual incentive bonus in the form of restricted stock in 2007 and all of the annual incentive bonus in the form of restricted stock in 2008.

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For the 2007 and 2008 performance years, the target bonuses as a percentage of base salary were as follows:

	Target Bonus	
Executive Officer	**2007**	**2008**
Dr. Armen	50%	50%
Ms. Sharp	40%	40%
Ms. Valentine	30%	30%
Ms. Wentworth	40%	40%
Ms. Klaskin	30%	30%

For the 2007 and 2008 performance year, the annual incentive awards granted to our named executive officers and other members of key management were based largely on total company performance with limited adjustments for the executive s individual performance. This approach was taken to acknowledge and reinforce the importance of teamwork in addressing the unique set of performance challenges facing the Company in this cycle, which included the reduction of staff and resources, the consolidation of priorities and the attendant need to optimize cross-functional cooperation.

Approximately 85% of the incentive awards granted for 2007 performance and 100% of the incentive awards granted for 2008 performance were delivered as restricted stock. The rationale for this method of payment was to:

Conserve our limited cash resources,

Further reinforce the link between executive pay and stockholder value creation, and

Reward performance while providing additional retention incentives.

The total payout (cash and restricted stock) for 2007 performance was approximately 150% of target and approximately 60% of target for 2008 performance.

2. Long-term Compensation.

At present, our long-term compensation consists of stock options and restricted stock grants. Our stock options and restricted stock grants are designed to align management s performance objectives with the interests of our stockholders. Our Compensation Committee grants options and restricted stock to key executives to enable them to participate in long-term appreciation of our stockholder value, while personally feeling the impact of any business setbacks, whether Company-specific or industry-based. Additionally, through each grant s vesting schedule, stock options and restricted stock provide a means of encouraging the retention of key executives. In general, stock options and restricted stock awards are granted annually and are subject to vesting based on the executive s continued employment. Most options vest 25% per year over four years, with no vesting from the date of grant until the first anniversary. The first long term restricted stock award was granted in September 2008 and vests 33% per year over three years. All restricted stock issued to our named executive officers in lieu of cash for our annual incentive bonus and have had shorter term vesting provisions.

On January 10, 2008, in connection with the 2007 annual incentive bonus, the Compensation Committee issued two restricted stock grants to our named executive officers and other members of key management. The first restricted stock grant vested on the six-month anniversary of the grant and the second stock grant vested on the twelve-month anniversary.

On September 10, 2008, the Compensation Committee issued a stock option grant to our named executive officers and other members of key management. The stock options vest in equal annual increments over three years, with no vesting from the date of grant until the first anniversary.

On January 14, 2009, in connection with the 2008 annual incentive bonus, the Compensation Committee issued a restricted stock grant to named executive officers and other key members of management which vests on the six-month anniversary of the grant.

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The details of all stock options and restricted stock grants made to named executive officers in 2008 are outlined in the section entitled Compensation Actions for our Chief Executive Officer and our other Named Executive Officers and are also reflected in the Summary Compensation Table.

Our Compensation Committee has and will continue to consider alternative vesting strategies based on the achievement of milestones, determined on an individual, functional area and company-wide level, and may introduce such performance-based vesting in the future.

Initial and Promotional Stock Option Grants:

The size of the initial option grant made to executives upon joining the Company or to current employees being promoted to executive positions is primarily based on competitive conditions applicable to the executive s specific position. In addition, the Compensation Committee considers the number of options owned by other executives in comparable positions within our Company and has, with the assistance of our independent compensation consultant, established stock option guidelines for specified categories of executives. We believe this strategy is consistent with the approach of other development-stage companies in our industry and, in our Compensation Committee s view, is appropriate for aligning the interests of our executives with those of our stockholders over the long-term.

Market Comparisons:

We use a number of methodologies to make external comparisons when we set the number of options to be granted to each executive. On an individual basis, we compare:

- the fair value of the grant using a Black-Scholes valuation model for equity awards that is consistent with Statement of Financial Accounting Standards No. 123R, *Share-Based Payment* (SFAS No. 123R),
- the face value of the grant by position,
- the face value of the grant as a multiple of base salary,
- the number of option shares granted by position,
- the number of option shares, in total, granted, and still held, by position as a percentage of total option shares granted and of total common shares outstanding, and
- the proportion of exercisable to non-exercisable option shares held, in total.

On a total Company basis, when it is appropriate, we analyze:

- total annual option burn rates,
- total number of options remaining in the approved pool under the 1999 EIP, and
- equity overhang.

We believe these comparisons provide important additional context for comparing the competitive level of our equity-based compensation practices versus the market.

Ultimately, awards to senior executives are driven by their performance over time, their ability to impact our results that drive stockholder value, their level within the organization, their potential to take on roles of increasing responsibility in our Company, and competitive equity award levels for similar positions and organization levels in our peer companies. Equity awards are not granted automatically to our executives on an annual basis.

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While we expect our senior executives to hold a significant portion of their stock for the longer term, we have not yet established formal share retention guidelines. Directors, executive officers, and employees of our Company are required to sign our Company s Policy Statement on Securities Trades. This policy prohibits trading on, or disclosing, material non-public information, and also establishes black-out periods for directors and named executive officers to avoid even the appearance of impropriety.

3. Benefits.

We provide the following benefits to our senior executives generally on the same basis as the benefits provided to all employees:

Health and dental insurance,

Life insurance,

Short- and long-term disability,

401(k) plan, and

Employee Stock Purchase Plan.

These benefits are consistent with those offered by other companies and specifically with those companies with which we compete for employees.

4. Severance Compensation and Termination Protection.

We have entered into employment agreements and change in control agreements with Dr. Armen, Ms. Sharp, Ms. Valentine and Ms. Wentworth and a change of control plan with Ms. Klaskin. These agreements provide for severance compensation to be paid if the executives are terminated under certain conditions, such as a change of control of the Company or a termination without cause by us, each as is defined in the agreements.

The employment agreements and change in control agreements between our Company and our senior executives and the related severance compensation provisions are designed to meet the following objectives:

Change of Control: As part of our normal course of business, we engage in discussions with other biotechnology and pharmaceutical companies about possible collaborations, licensing and/or other ways in which the companies may work together to further our respective long-term objectives. In addition, many larger established pharmaceutical companies consider companies at similar stages of development to ours as potential acquisition targets. In certain scenarios, the potential for a merger or being acquired may be in the best interests of our stockholders. We provide severance compensation if an executive is terminated as a result of a change of control transaction to maintain continuity in the event a potential transaction is announced and to promote the ability of our senior executives to act in the best interests of our stockholders even though they could be terminated as a result of the transaction.

Termination without Cause: If we terminate the employment of a senior executive without cause, or the executive resigns for good reason as defined in the applicable agreement, we are obligated to continue to pay the base salary, bonus, and medical and dental benefits for a defined period, as well as to provide outplacement services. We believe this is appropriate because the terminated executive is bound by confidentiality, non-solicitation and non-compete provisions covering one year after termination and because we and the executive have mutually agreed to a severance package that is in place prior to any termination event. This provides us with more flexibility to make a change in senior management if we consider such a change to be in our and our stockholders best interests.

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The payments provided under these agreements are as follows:

Change of Control: Upon a change of control, 50% of the executives unvested stock options immediately vest. If the executive is terminated or resigns for good reason as a result of the change of control, the remaining 50% vests.

If Dr. Armen is terminated or resigns for good reason, he is entitled to:

24 months base salary, bonus, and medical and dental benefits continuation,

outplacement services, and

a gross-up payment to cover any excise taxes required under Section 280G of the Code.

Other named executive officers with executive employment agreements and change in control agreements are entitled to 18 months base salary, bonus, and medical and dental benefits continuation, outplacement services and Section 280G of the Code gross-up payments under the same circumstances.

Termination without Cause:

If we terminate Dr. Armen s employment without cause or he resigns for good reason not involving a change of control, he is entitled to 18 months base salary, bonus, and medical and dental benefits continuation, and outplacement services.

Other named executive officers with executive employment agreements are entitled to 12 months base salary, bonus, and medical and dental benefits continuation, and outplacement services under the same circumstances.

Executive employment agreements and change in control agreements are covered in greater detail in the section entitled Potential Payments Upon Termination or Change of Control.

Compensation Actions for our Chief Executive Officer and our other Named Executive Officers

Compensation actions for 2008 and 2009 reflect our management s and our Compensation Committee s assessments of performance relative to Company goals and objectives, departmental or functional area goals and individual performance objectives, and comparisons against market benchmarks described earlier in this discussion.

Dr. Armen, our Chief Executive Officer, makes recommendations to our Compensation Committee as to individual compensation actions for the senior executives, including the named executive officers. Using the same criteria outlined above, our Compensation Committee works with the Vice President of Human Resources and the Company s independent compensation consultant to determine the specific compensation actions for our named executive officers.

Our compensation actions for our Chief Executive Officer and our other named executive officers are summarized as follows:

Dr. Garo H. Armen Chairman and Chief Executive Officer

Compensation Actions for 2008:

Base Salary: In 2008, our Compensation Committee, at Dr. Armen s request, did not increase Dr. Armen s base salary. His 2008 base salary remained at $440,000.

Annual Incentive Bonus: In January 2008, our Compensation Committee granted Dr. Armen an annual incentive bonus. The Compensation Committee awarded Dr. Armen a cash incentive bonus of $55,000 and 120,087 shares of restricted stock as outlined in the section below entitled Equity Compensation, to reward him for his performance in 2007.

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Equity Compensation: In January 2008, Dr. Armen was granted 120,087 shares of restricted stock in two grants. One grant of 60,044 restricted shares vested on the six-month anniversary of the grant and the other grant of 60,043 restricted shares vested on the twelve-month anniversary of the grant. On September 10, 2008, our Compensation Committee granted Dr. Armen 255,000 stock options with an exercise price of $1.57, and 45,000 shares of restricted stock. These options and shares vest in equal annual increments over three years beginning with the first anniversary of the grant. All of these options were granted with the exercise price equal to the fair market value of the Company s common stock on the date of the grant.

Compensation Actions for 2009:

Base Salary: On January 14, 2009 the Compensation Committee and Dr. Armen agreed that for the foreseeable future and effective February 1, 2009, Dr. Armen would receive 30% of his base salary in unrestricted shares of common stock of the Company and 70% of his base salary in cash. As of the date of this filing, our Compensation Committee has made no change to Dr. Armen s base salary for 2009.

Annual Incentive Bonus: In January 2009, our Compensation Committee approved the granting of an annual incentive bonus to Dr. Armen. The Compensation Committee approved granting Dr. Armen 330,000 shares of restricted stock as outlined in the section below entitled Equity Compensation, to reward him for his performance in 2008 subject to stockholder approval of the 2009 EIP.

Equity Compensation: In January 2009, Dr. Armen was granted 330,000 shares of restricted stock subject to stockholder approval of the 2009 EIP and, if awarded, will vest on July 14, 2009. As part of the adjustment to his base salary, effective February 1, 2009, Dr. Armen receives 30% of his base salary in unrestricted shares of common stock which is payable monthly in arrears on the first day of each month based on the prior month s average closing price of the Company s stock.

Karen H. Valentine Vice President and General Counsel

Compensation Actions for 2008:

Base Salary: In January 2008, our Compensation Committee set Ms. Valentine s 2008 base salary at $220,000. This base salary represents a 10% increase from the prior year s salary of $200,000. This increase was awarded by our Compensation Committee in connection with Ms. Valentine s title change to Vice President and General Counsel.

Annual Incentive Bonus: In January 2008, our Compensation Committee granted Ms. Valentine an annual incentive bonus. The Compensation Committee awarded Ms. Valentine a cash incentive bonus of $15,000 and 32,751 shares of restricted stock as outlined in the section below entitled Equity Compensation, to reward her for her performance in 2007.

Equity Compensation: In January 2008, Ms. Valentine was granted 32,751 shares of restricted stock in two grants. One grant of 16,376 restricted shares vested on the six-month anniversary of the grant and the other grant of 16,375 restricted shares vested on the twelve-month anniversary of the grant. On September 10, 2008, our Compensation Committee granted Ms. Valentine 50,000 stock options with an exercise price of $1.57, and 10,000 shares of restricted stock. These options and shares vest in equal annual increments over three years beginning with the first anniversary of the grant. All of these options were granted with the exercise price equal to the fair market value of the Company s common stock on the date of the grant.

Compensation Actions for 2009:

Base Salary: As of the date of this filing, our Compensation Committee has made no change to Ms. Valentine s base salary for 2009.

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Annual Incentive Bonus: In January 2009, our Compensation Committee awarded Ms. Valentine 67,300 shares of restricted stock as outlined in the section below entitled Equity Compensation, to reward her for her performance in the 2008 performance year.

Equity Compensation: In January 2009, Ms. Valentine was awarded 67,300 shares of restricted stock which vests on the six-month anniversary of the date of the grant. As of the date of this filing, the Committee has made no stock option grants to Ms. Valentine in 2009.

Shalini Sharp Vice President and Chief Financial Officer

Compensation Actions for 2008:

Base Salary: Ms. Sharp s base salary for 2008 remained at $240,000, unchanged from 2007.

Annual Incentive Bonus: In January 2008, our Compensation Committee awarded Ms. Sharp a cash bonus of $24,000 and 52,402 shares of restricted stock as outlined in the section below entitled Equity Compensation, to reward her for her performance in 2007 performance year.

Equity Compensation: In January 2008, Ms. Sharp was awarded 52,402 shares of restricted stock in two grants. One grant of 26,201 restricted shares vested on the six-month anniversary of the grant and the other grant of 26,201 restricted shares vested on the twelve-month anniversary of the grant. On September 10, 2008, our Compensation Committee granted Ms. Sharp 65,000 stock options with an exercise price of $1.57, and 15,000 shares of restricted stock. These options and shares vest in equal annual increments over three years beginning with the first anniversary of the grant. All of these options were granted with the exercise price equal to the fair market value of the Company s common stock on the date of the grant.

Compensation Actions for 2009:

Base Salary: As of the date of this filing, our Compensation Committee has made no change to Ms. Sharp s base salary for 2009.

Annual Incentive Bonus: In January 2009, our Compensation Committee awarded Ms. Sharp 115,200 shares of restricted stock as outlined in the section below entitled Equity Compensation, to reward her for her performance in the 2008 performance year.

Equity Compensation: In January 2009, Ms. Sharp was awarded 115,200 shares of restricted stock which vests on the six-month anniversary of the date of the grant. As of the date of this filing, the Committee has made no stock option grants to Ms. Sharp in 2009.

Kerry A. Wentworth Vice President, Clinical Operations and Regulatory Affairs

Compensation Actions for 2008:

Base Salary: In January 2008, our Compensation Committee set Ms. Wentworth s 2008 base salary at $240,000. This base salary represents a 9% increase from the prior year s salary of $220,000. This increase was awarded by our Compensation Committee to bring Ms. Wentworth s salary in line with market benchmarks.

Annual Incentive Bonus: In January 2008, our Compensation Committee awarded Ms. Wentworth a cash bonus of $22,000 and 48,035 shares of restricted stock, as outlined in the section below entitled Equity Compensation, to reward her performance in the 2007 performance year.

Equity Compensation: In January 2008, Ms. Wentworth was granted 48,035 shares of restricted stock in two grants. One grant of 24,018 restricted shares vested on the six-month anniversary of the grant and the other grant of 24,017 restricted shares vested on the twelve-month anniversary of the grant. On

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September 10, 2008, our Compensation Committee granted Ms. Wentworth 65,000 stock options with an exercise price of $1.57, and 15,000 shares of restricted stock. These options and shares vest in equal annual increments over three years beginning with the first anniversary of the grant. All of these options were granted with the exercise price equal to the fair market value of the Company s common stock on the date of the grant.

Compensation Actions for 2009:

Base Salary: As of the date of this filing, our Compensation Committee has made no change to Ms. Wentworth s base salary for 2009.

Annual Incentive Bonus: In January 2009, our Compensation Committee awarded Ms. Wentworth 115,200 shares of restricted stock as outlined in the section below entitled Equity Compensation, to reward her for her performance in the 2008 performance year.

Equity Compensation: In January 2009, Ms. Wentworth was awarded 115,200 shares of restricted stock which vests on the six-month anniversary of the grant. As of the date of this filing, the Committee has made no stock option grants to Ms. Wentworth in 2009.

Christine M. Klaskin Vice President, Finance

Compensation Actions for 2008:

Base Salary: Ms. Klaskin s base salary for 2008 remained at $185,000, unchanged from 2007.

Annual Incentive Bonus: In January 2008, Ms. Klaskin was awarded a cash bonus in the amount of $13,875 and 30,295 shares of restricted stock as outlined below in the section entitled Equity Compensation, to reward her for her performance in 2007.

Equity Compensation: In January 2008, Ms. Klaskin was awarded 30,295 shares of restricted stock. One grant of 15,148 restricted shares vested on the six-month anniversary of the grant and the other grant of 15,147 restricted shares vested on the twelve-month anniversary of the grant. On September 10, 2008, our Compensation Committee granted Ms. Klaskin 50,000 stock options with an exercise price of $1.57, and 10,000 shares of restricted stock. These options and shares vest in equal annual increments over three years beginning with the first anniversary of the grant. All of these options were granted with the exercise price equal to the fair market value of the Company s common stock on the date of the grant.

Compensation Actions for 2009:

Base Salary: As of the date of this filing, our Compensation Committee has made no change to Ms. Klaskin s base salary for 2009.

Annual Incentive Bonus: In January 2009, our Compensation Committee awarded Ms. Klaskin 66,600 shares of restricted stock as outlined in the section below entitled Equity Compensation, to reward her for her performance in the 2008 performance year.

Equity Compensation: In January 2009, Ms. Klaskin was awarded 66,600 shares of restricted stock which vests on the six-month anniversary of the date of the grant. As of the date of this filing, the Committee has made no stock option grants to Ms. Klaskin in 2009.

Competitive Market Review

The market for top tier executive talent is highly competitive. Our objective is to attract and retain a superior leadership team. In doing so, we aim to draw upon a pool of talent that is highly sought after by both large and established pharmaceutical and biotechnology companies in and outside our geographic area and by other development-stage life science companies.

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We believe we have competitive advantages in our ability to offer significant upside potential through stock options and other equity instruments. Nonetheless, we must recognize market cash compensation levels and satisfy the day-to-day financial requirements of our candidates through competitive base salaries and cash bonuses. We also compete on the basis of our vision of future success, our culture and values, the cohesiveness and productivity of our teams, and the excellence of our scientists and management personnel.

In order to succeed in attracting highly talented executives, we continuously monitor market trends and draw upon surveys prepared by The Radford Biotechnology division of AON Consulting, custom research developed by our compensation consultants, and other nationally recognized surveys. Our Compensation Committee reviews data that analyzes various cross-sections of our industry as well as relevant geographical areas.

Market Benchmarks: How We Define Market and How We Use Market Compensation Data. Since 2003, we have worked with Oyster Pond Associates, an independent compensation consultant, to evaluate our total compensation program and compare it to levels in the market. Our consultant works with our Vice President of Human Resources and the Compensation Committee to interpret results, make certain specific and general recommendations, and assist in the determination of next steps.

Defining the Market. For 2008, we used two market references to compare our executive total compensation practices and levels to those in the market:

1. Radford Biotechnology Executive Compensation Report by AON Consulting: A national survey of executive compensation levels and practices that covers approximately 1,300 positions in 550 life science organizations. We focus primarily on a predetermined subset of companies with between 50 and 149 employees.

2. Proxy data derived from a select peer group of biotech companies of a similar size, market capitalization, development stage and therapeutic focus. The composition of this group is reassessed on an annual basis with guidance from our compensation consultants, Oyster Pond Associates. The select peer group was updated in January 2008, and currently consists of the following fourteen (14) companies: ArQule, Biocryst Pharmaceuticals, Cell Genesys, Cell Therapeutics, CombinatoRx, Cytokinetics, Dendreon, Immunogen, Micromet, Onyx Pharmaceuticals, Poniard Pharmaceuticals, Sunesis, Supergen, and Vical.

Determining Market Levels and Specific Comparisons. We compare our practices and levels by each compensation component, by total annual compensation (including target annual incentive opportunity) and by total compensation including equity compensation components. The competitive comparisons made in this process are used to determine our approximate position relative to the appropriate market benchmark by compensation component and in total.

Total Compensation

We intend to continue our strategy of compensating our named executive officers at competitive levels, with the opportunity to earn above-market pay for above-market performance, through programs that emphasize performance-based incentive compensation in the form of cash and equity.

For 2008, the total compensation paid to the named executive officers generally fell between the 25th and 60th percentile of total compensation paid to executives holding equivalent positions in our peer group of companies. We believe that the total compensation was reasonable in the aggregate. Further, in light of our compensation philosophy, we believe that the total compensation package for our executives should continue to consist of base salary, annual cash incentive awards (bonus), long-term equity-based incentive compensation, and certain other benefits.

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The competitive posture of our total annual compensation versus the market benchmarks will vary year to year based on Company, functional area, and individual performance, as well as the performance of the peer group companies and their respective level of annual performance bonus awards made to their executives. We believe our target total annual direct compensation is generally positioned at approximately the 50th to 60th percentile, with an emphasis on performance-based variable compensation.

Evolution of our Compensation Strategy

Our compensation strategy is necessarily tied to our stage of development. Accordingly, the specific direction, emphasis, and components of our executive compensation program continue to evolve in parallel with the evolution of our business strategy. For example, we expect that if we become a fully integrated commercial company, our executive compensation program, in particular our Executive Incentive Plan, will focus more on quantitative performance metrics. Our Compensation Discussion and Analysis would, in the future, reflect these evolutionary changes.

COMPENSATION OF EXECUTIVE OFFICERS

Summary Compensation

This table shows certain information about the compensation earned in 2008, 2007 and 2006 by our Chief Executive Officer, our Chief Financial Officer, our Principal Accounting Officer, and our other most highly compensated executive officers who were serving as an executive officer as of December 31, 2008. We refer to these officers as our named executive officers.

Name and Principal Position	Year	Salary ($)	Stock Awards (2) ($)	Option Awards (3) ($)	Non-Equity Incentive Plan Compensation ($)	All Other Compensation (4) ($)	Total ($)
Garo H. Armen, Ph.D. (1)	2008	440,000	424,431	650,878		34,804	1,550,113
Chief Executive Officer	2007	440,000	132,231	882,821	55,000	35,754	1,545,806
	2006	440,000		940,359		39,910	1,420,269
Shalini Sharp	2008	240,000	142,995	138,238		10,358	531,591
Vice President and Chief Financial Officer	2007	240,000	22,970	120,654	24,000	7,508	415,132
	2006	181,921	3,329	80,418	48,000	10,712	324,380
Karen H. Valentine (5)	2008	220,000	90,131	65,179		19,825	395,135
Vice President and General Counsel	2007	n/a	n/a	n/a	n/a	n/a	n/a
	2006	n/a	n/a	n/a	n/a	n/a	n/a
Kerry A. Wentworth	2008	240,000	132,520	174,142		22,830	569,492
Vice President, Clinical Operations and Regulatory	2007	220,000	22,788	133,578	22,000	12,653	411,019
Affairs	2006	204,046	3,329	91,563	52,586	14,901	366,425
Christine M. Klaskin	2008	185,000	82,351	61,347		9,255	337,953
Vice President, Finance and Principal Accounting	2007	185,000	12,890	55,925	13,875	8,022	275,712
Officer	2006	156,811	1,996	38,869	26,016	9,886	233,578

(1) As an employee-director, Dr. Armen receives no additional compensation for his services to the Board.
(2) Based on the fair value of nonvested shares on the grant date. Please see the notes to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K for the year ended December 31, 2008 for assumptions applied.
(3) We use the Black-Scholes option pricing model to value the options granted. Please see the notes to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K for the year ended December 31, 2008 for assumptions applied.
(4) Please see the table below.
(5) Ms. Valentine was promoted to her position as an executive officer of the Company in 2008.

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2008:

Executive Officer	Insurance Premiums ($)	401(k) Company Match ($)	Car Service to Base Office ($)	Discounted Securities Purchases ($)	Other Benefits ($)	Total ($)
Garo H. Armen, Ph.D.	14,514	3,181	15,109		2,000	34,804
Shalini Sharp	2,046	6,900		1,149	263	10,358
Karen H. Valentine	11,676	6,402		1,747		19,825
Kerry A. Wentworth	5,639	6,645			10,546	22,830
Christine M. Klaskin	2,293	5,188		574	1,200	9,255

2007:

Executive Officer	Insurance Premiums ($)	401(k) Company Match ($)	Car Service to Base Office ($)	Other Benefits ($)	Total ($)
Garo H. Armen, Ph.D.	14,250	3,181	15,600	2,723	35,754
Shalini Sharp	1,943	4,750		815	7,508
Kerry A. Wentworth	5,456	6,600		597	12,653
Christine M. Klaskin	2,126	4,696		1,200	8,022

2006:

Executive Officer	Insurance Premiums ($)	401(k) Company Match ($)	Car Service to Base Office ($)	Discounted Securities Purchases ($)	Other Benefits ($)	Total ($)
Garo H. Armen, Ph.D.	14,347	4,569	17,769		3,225	39,910
Shalini Sharp	2,174	6,159		1,618	761	10,712
Kerry A. Wentworth	5,636	9,150			115	14,901
Christine M. Klaskin	1,927	6,759			1,200	9,886

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Grants of Plan-Based Awards for 2008

This table shows our grants of plan-based awards to named executive officers in 2008. All of the grants shown below were made under our 1999 EIP.

Executive Officer	Grant Date	All Other Stock Awards: Number of Shares of Stock or Units (#)	All Other Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards ($/Sh)	Grant Date Fair Value of Stock and Option Awards ($) (4)
Garo H. Armen, Ph.D.	1/10/08(1)	60,044			143,505
Chief Executive Officer	1/10/08(2)	60,043			143,502
	9/10/08(3)		255,000	1.57	269,714
	9/10/08(3)	45,000			70,650
					62,620
Shalini Sharp	1/10/08(1)	26,201			62,620
Vice President and Chief Financial	1/10/08(2)	26,201			62,620
Officer	9/10/08(3)		65,000	1.57	68,751
	9/10/08(3)	15,000			23,550
Karen H. Valentine	1/10/08(1)	16,376			39,139
Vice President and General Counsel	1/10/08(2)	16,375			39,136
	9/10/08(3)		50,000	1.57	52,885
	9/10/08(3)	10,000			15,700
Kerry A. Wentworth	1/10/08(1)	24,018			57,403
Vice President, Clinical Operations	1/10/08(2)	24,017			57,401
and Regulatory Affairs	9/10/08(3)		65,000	1.57	68,751
	9/10/08(3)	15,000			23,550
Christine M. Klaskin	1/10/08(1)	15,148			36,204
Vice President, Finance and	1/10/08(2)	15,147			36,201
Principal Accounting Officer	9/10/08(3)		50,000	1.57	52,885
	9/10/08(3)	10,000			15,700

(1) The restricted stock vested on the six-month anniversary of the grant date.
(2) The restricted stock vested on the twelve-month anniversary of the grant date.
(3) The shares vest in equal increments over three years beginning with the first anniversary of the grant date.
(4) We use the Black-Scholes option pricing model to value the options granted. Please see the notes to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K for the year ended December 31, 2008 for assumptions applied.

Our compensation package for named executive officers consists of base salary, an annual incentive bonus, and long-term compensation in the form of stock options and restricted stock. We also provide benefits and severance/termination protection. In light of our stage of development and the importance of achieving our short- and long-term strategic objectives, considerable emphasis is placed on the annual incentive bonus and equity-based compensation components of the total compensation package. Dr. Armen, Ms. Sharp, Ms. Valentine and Ms. Wentworth each currently have an employment agreement providing a minimum base salary. The employment agreements for our current and former executive officers entitle them to participate in employee benefit and fringe benefit plans and programs made available to executives generally. Additionally, the employment agreements provide for the reimbursement of reasonable, customary and necessary business expenses, subject to our Travel Policy. For our executives, all other compensation items, including perquisites, comprise a small portion of overall total compensation.

As discussed in the Compensation Discussion and Analysis, in 2003, the Compensation Committee adopted an Executive Incentive Plan (EIP). The purpose of the EIP is to provide additional incentives for executive

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officers to contribute to the success of the Company. The EIP provides for significant competitive incentive awards which relate directly to the achievement of corporate objectives and individual performance goals. This, in turn, is expected to promote the interests of stockholders and enhance our ability to attract, motivate and retain high performing executive officers. Target incentive awards typically range from 30-50% of an executive officer s base salary. Funding for the target incentive awards is based on the extent to which we achieve a predetermined set of corporate objectives and milestones. Individual awards can be adjusted to reflect the individual executive officer s contribution to achieving these corporate objectives and milestones and range from 0 to 150% of the executive officer s target incentive award.

Furthermore, we grant stock options and restricted stock to executive officers under our 1999 EIP (as amended). Our 1999 EIP is designed to directly align the long-term financial interests of our executive officers and our stockholders, to assist in the retention of executive officers by providing meaningful ownership interest in Antigenics that vests over time, and to encourage our executive officers to think and act like owners of the business. Historically, we had used a five-year vesting period and a ten-year exercise period for stock option grants. Beginning with grants made in February 2004, we changed the standard vesting period from five to four years to be more consistent with market practice and from time to time have issued grants with shorter vesting periods. In September 2008, we granted stock options with a three year vesting period.

Our practice is to generally make stock option awards with a four-year vesting period, although in September 2006, we made grants to executives that had a two-year vesting period, the first 33.3% on the first anniversary of the grant date and the balance on the second anniversary. Our use of restricted stock in executive compensation has thus far been primarily directed to grants made in lieu of annual cash incentive bonuses and have not been subject to four year vesting due to the nature of the grants. In January 2007, we granted restricted stock that had a two-year vesting period, the first 50% on the first anniversary of the grant and the balance on the second anniversary. In January 2008, we granted restricted stock that had a one-year vesting period and a six-month vesting period. In January 2009, we granted restricted stock that had a six-month vesting period. In September 2008, we issued our first restricted stock grant to executive officers as a long-term incentive. These grants vest in equal increments over three years beginning with the first anniversary of the grant date.

The exercise price for all stock options granted in 2008 equaled the fair market value of the Company s common stock on the date of the grant. Fair market value on the date of grant was determined as the closing market price of the Company s common stock on the date of the grant.

We typically grant stock options to new executive officers when they start employment and on an annual basis and upon promotions to positions of greater responsibility. In determining the size of an annual executive grant, we consider the position level, the degree to which the executive s contributions impacted our results in the past year, the importance of the executive s skills to our future success, the size of the executive s current equity position, and competitive market benchmarks.

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Outstanding Equity Awards at Fiscal Year-End 2008

The following table shows outstanding equity awards for the named executive officers as of December 31, 2008:

	Option Awards				Stock Awards	
Name	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (15) ($)
Garo H. Armen, Ph.D.	82,820		12.07	2/1/09		
Chief Executive Officer	171,861		12.07	4/29/09		
	150,000		14.85	3/14/12		
	75,000		7.45	3/14/13		
	175,000		10.18	3/11/14		
	225,000	75,000(1)	6.92	3/10/15		
	318,227		1.63	9/15/16		
					68,750(2)	33,000
	52,800	158,400(3)	2.27	9/12/17		
					60,043(4)	28,821
		255,000(5)	1.57	9/10/18		
					45,000(6)	21,600
Shalini Sharp	20,000		12.45	8/5/13		
Vice President and Chief Financial	6,800		10.36	2/18/14		
Officer	15,000	5,000(7)	9.43	1/10/15		
	13,333	6,667(8)	5.13	3/22/16		
	30,000	30,000(9)	1.74	9/13/16		
	22,267		1.63	9/15/16		
					8,000(2)	3,840
	27,800	83,400(3)	2.27	9/12/17		
					26,201(4)	12,576
		65,000(5)	1.57	9/10/18		
					15,000(6)	7,200
Karen H. Valentine	15,000		10.17	3/22/14		
Vice President and General Counsel	5,625	1,875(11)	6.30	3/7/15		
	3,750	3,750(14)	4.76	1/1/16		
	5,000	2,500(8)	5.13	3/22/16		
	12,500		1.63	9/15/16		
	15,000	15,000(13)	2.03	12/4/16		
					5,209(2)	2,500
	12,225	36,675(3)	2.27	9/12/17		
					16,375(4)	7,860
		50,000(5)	1.57	9/10/18		
					10,000(6)	4,800
Kerry A. Wentworth	40,000		6.77	11/1/14		
Vice President, Clinical Operations and	13,333	6,667(8)	5.13	3/22/16		
Regulatory Affairs	30,000	30,000(10)	2.03	6/14/16		
	20,000		1.63	9/15/16		
					7,907(2)	3,795
	40,300	120,900(3)	2.27	9/12/17		
					24,017(4)	11,528
		65,000(5)	1.57	9/10/18		
					15,000(6)	7,200
Christine M. Klaskin	1,000		13.50	2/4/10		
Vice President, Finance and Principal	1,000		14.52	1/5/12		
Accounting Officer	5,000		9.00	6/7/12		

5,000		8.99	2/11/13		
6,800		10.36	2/18/14		
5,625	1,875(11)	6.30	3/7/15		
6,666	3,334(8)	5.13	3/22/16		
15,000	15,000(12)	1.74	9/13/16		
15,311		1.63	9/15/16		
				4,336(2)	2,081
12,225	36,675(3)	2.27	9/12/17		
				15,147(4)	7,271
	50,000(5)	1.57	9/10/18		
				10,000(6)	4,800

(1) The options vested on March 10, 2009.
(2) The restricted stock vested on January 5, 2009.

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(3) The options vest in three equal annual installments beginning on September 12, 2009, provided the executive is still employed with us.
(4) The restricted stock vested on January 10, 2009.
(5) The options vest in three equal annual installments beginning September 10, 2009, provided the executive remains employed with us.
(6) The restricted stock vests in three equal annual installments beginning September 10, 2009, provided the executive remains employed with us.
(7) The options vested on January 10, 2009.
(8) The options vest on March 22, 2009.
(9) The options vest with respect to 15,000 shares on each of September 13, 2009 and 2010, provided Ms. Sharp remains employed with us.
(10) The options vest with respect to 15,000 shares on each of June 14, 2009 and 2010, provided Ms. Wentworth remains employed with us.
(11) The options vested on March 7, 2009.
(12) The options vest with respect to 7,500 shares on each of September 13, 2009 and 2010, provided Ms. Klaskin remains employed with us.
(13) The options vest with respect to 7,500 shares on each of December 4, 2009 and 2010, provided Ms. Valentine remains employed with us.
(14) Options to purchase 1,875 shares vested on January 1, 2009 and options to purchase an additional 1,875 shares will vest on January 1, 2010, provided Ms. Valentine remains employed with us.
(15) We valued the stock awards using the closing price of our common stock on The NASDAQ Global Market on December 31, 2008, which was $0.48 per share, utilizing the same assumptions that we utilize under SFAS No. 123R for our financial reporting.

Option Exercises and Stock Vested for 2008

The following table shows information about restricted stock that vested in 2008 and the value realized on those awards by our named executive officers in 2008. No stock options were exercised by our named executive officers in 2008.

	Stock Awards	
Name	**Number of Shares Acquired On Vesting (#)**	**Value Realized On Vesting ($)**
Garo Armen Chief Executive Officer	128,794	254,177
Shalini Sharp Vice President and Chief Financial Officer	35,868	67,115
Karen H. Valentine Vice President and General Counsel	22,918	43,060
Kerry A. Wentworth Vice President, Clinical Operations and Regulatory Affairs	33,591	63,070
Christine M. Klaskin Vice President, Finance and Principal Accounting Officer	20,484	38,263

Pension Benefits for 2008

We do not have any plans providing for payments or other benefits at, following, or in connection with, retirement.

Nonqualified Defined Contribution and Other Nonqualified Deferred Compensation Plans for 2008

We do not have any nonqualified defined contribution plans or other deferred compensation plans for our executive officers.

Potential Payments Upon Termination or Change of Control

We have entered into certain agreements and maintain certain plans that may require us to make certain payments and/or provide certain benefits to some of the executive officers named in the Summary Compensation Table in the event of a termination of employment or a change of control. Dr. Armen, Ms. Sharp, Ms. Valentine

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and Ms. Wentworth are each currently party to employment agreements and change in control agreements providing for payments in connection with such officers termination or a change of control. Ms. Klaskin is party to a change of control plan providing for payments in connection with a change of control. A change of control is defined in each of the agreements generally as (i) the acquisition by any individual, entity or group of 50% or more of the common stock of the Company, (ii) a change in the incumbent board of directors such that incumbent directors cease to constitute at least a majority of our board of directors, (iii) a sale or other disposition of all or substantially all of the assets of the Company, or (iv) approval by the stockholders of the Company of a complete liquidation or dissolution of the Company. The following text and tables summarize the potential payments to each applicable named executive officer assuming that the triggering event occurred on December 31, 2008, the last day of our fiscal year.

Our Chief Executive Officer

Under Dr. Armen s employment agreement and change in control agreement, if we terminate Dr. Armen s employment without cause or if he terminates his employment for good reason (as defined), he is entitled to the greater of (i) benefits payable under an executive severance plan, if such a plan exists on the date of termination, or (ii) 18 months of his base salary plus a lump sum payment of 150% of the higher of his target incentive bonus for that year or his last actual incentive bonus, as well as coverage under our medical and dental plans for 18 months following the date of termination, a lump sum payment of $15,000 for outplacement assistance, a gross-up for any taxes with respect to such outplacement assistance payment, a gross-up payment for any taxes, interest and penalties imposed by Section 4999 of the Code and, at the Compensation Committee s discretion, the acceleration of vesting of any unvested stock options.

Under Dr. Armen s employment agreement and change in control agreement, *good reason* means the occurrence of any of the following events:

(i) failure to continue Dr. Armen in the position of Chief Executive Officer,

(ii) a material and substantial diminution in the nature or scope of his responsibilities,

(iii) a material reduction in base salary or benefits, or

(iv) relocation of Dr. Armen s principal office, without his prior consent, to a location more than 30 miles away.

Upon a change of control, (i) 50% of any of Dr. Armen s outstanding unvested stock options as of the change of control date become vested and exercisable and (ii) the restriction lapses on 100% of the unvested restricted stock granted on September 10, 2008. If a change of control occurs and, within 24 months, we terminate Dr. Armen s employment without cause or if he terminates his employment for good reason, he is entitled to:

a lump sum payment of 24 months of base salary plus two times the higher of his target incentive bonus for that year or his last actual incentive bonus,

coverage under our medical and dental plans for 24 months following the date of termination,

a lump sum payment of $15,000 for outplacement assistance,

a gross-up for any taxes with respect to such outplacement assistance payment,

a gross-up payment for any taxes, interest and penalties imposed by Section 4999 of the Code, and

acceleration of vesting for all unvested stock options as of the date of termination.

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Additionally, under Dr. Armen s employment agreement and change in control agreement, he is subject to a non-competition and non-solicitation period for the greater of 18 months post-termination or the period during which he is receiving post-termination payments from us.

Executive Benefits and Payments Upon Termination or Change of Control	Termination in Connection with a Change of Control * ($)	Termination without Cause or with Good Reason * ($)
Base Salary	880,000	660,000
Bonus Payment	440,000	330,000
Acceleration of Vesting of Equity	34,681	N/A
Perquisites and Other Personal Benefits	42,391	36,104
Gross-up Payments for Change of Control Excise Taxes	N/A	N/A
Total:	1,397,072	1,026,104

* We used the following assumptions to calculate these payments:

We valued stock options accelerated using the closing price of our common stock on The NASDAQ Global Market on December 31, 2008, which was $0.48 per share, utilizing the same assumptions that we utilize under SFAS No. 123R for our financial reporting. Upon a change of control without termination, the acceleration of vested equity would be valued at $28,141.

We assumed that termination is not for cause, the executive does not violate his non-competition or non-solicitation agreements with us following termination, the executive does not receive medical and dental insurance coverage from another employer within two years of termination or change of control (or, in the case of a termination absent a change in control, within the remaining term of the agreement, if longer) and the executive does not incur legal fees requiring reimbursement from us.

We used the same assumptions for health care benefits that we used for our financial reporting under generally accepted accounting principles.

Gross-up payments assume a December 31, 2008 change of control and termination date. For purposes of these payments, the following are included as parachute payments: cash severance payable upon termination in connection with a change of control, the value of any outplacement services and benefits continuation due in the event of such a termination, and the value of the acceleration of outstanding equity awards, all determined in accordance with applicable tax regulations. We have assumed that all outstanding options are cashed out in the assumed transaction for an amount equal to the excess, if any, of $0.48 (the closing price of our common stock on December 31, 2008, the last business day of the year) over the exercise price per share under the option, multiplied by the number of shares subject to the option. Finally, these figures assume that none of the parachute payments will be discounted as attributable to reasonable compensation and no value is attributed to the executive executing a non-competition agreement in connection with the assumed termination of employment.

Other Named Executive Officers

Under the employment agreements and change in control agreements for Ms. Sharp, Ms. Valentine and Ms. Wentworth, if we terminate each officer s employment without cause or if each officer terminates her employment for good reason, each officer is entitled to:

the greater of:

(i) benefits payable under an executive severance plan, if such a plan exists on the date of termination, or

(ii) 12 months base salary plus a lump sum payment of the higher of the officer s target incentive bonus for that year or their last actual incentive bonus,

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coverage under our medical and dental plans for 12 months following the date of termination,

a lump sum payment of $15,000 for outplacement assistance,

a gross-up for any taxes with respect to such outplacement assistance payment,

a gross-up payment for any taxes, interest and penalties imposed by Section 4999 of the Code, and

at the Compensation Committee s discretion, the acceleration of vesting of any unvested stock options.

Under the employment agreements and change in control agreements for the various named executives, *good reason* means the occurrence of any of the following events:

Good Reason	**Ms. Sharp**	**Ms. Valentine**	**Ms. Wentworth**
Material and substantial diminution in nature of scope of responsibilities (1)	X	X	X
Material reduction in base salary or benefits	X	X	X
Relocation of office by more than 30 miles (without prior consent) (1)	X	X	X
Change of principal place of business from California (2)	X		

(1) For purposes of change of control.
(2) Termination benefit at reduced level in comparison with other good reason.

Under the employment agreements and change in control agreements for Ms. Sharp, Ms. Valentine and Ms. Wentworth, upon a change of control:

50% of any of each officer s outstanding unvested stock options as of the change of control date become vested and exercisable, and the restriction lapses on 100% of the unvested restricted stock granted on September 10, 2008 as of the change of control date, and

If a change of control occurs and, within 18 months, we terminate the officer s employment without cause or if the officer terminates her employment for good reason, the officer is entitled to:

a lump sum payment of 18 months of base salary plus 150% of the higher of their target incentive bonus for that year or their last actual incentive bonus,

coverage under our medical and dental plans for 18 months following the date of termination,

a lump sum payment of $15,000 for outplacement assistance,

a gross-up for any taxes with respect to such outplacement assistance payment,

a gross-up payment for any taxes, interest and penalties imposed by Section 4999 of the Code, and

the acceleration of vesting for all unvested stock options as of the date of termination.

Under Ms. Sharp s employment agreement, her principal place of business is in California. If Ms. Sharp is asked to relocate to the Company s New York or Massachusetts locations, she has the right to terminate the agreement, and upon such termination, Ms. Sharp is entitled to:

six months of her base salary plus a lump sum payment of the higher of one-half of her target incentive bonus for that year or one-half of her actual incentive bonus,

coverage under our medical and dental plans for six months following the date of termination,

a lump sum payment of $7,500 for outplacement assistance,

a gross-up for any taxes with respect to such outplacement assistance payment, and

at the Compensation Committee s discretion, the acceleration of vesting of any unvested stock options.

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Under the change of control agreement for Ms. Klaskin, upon a change of control:

50% of any of Ms. Klaskin s outstanding unvested stock options as of the change of control date become vested and exercisable, and the restriction lapses on 100% of the unvested restricted stock granted on September 10, 2008 as of the change of control date, and

If a change of control occurs and, within 18 months, we terminate the Ms. Klaskin s employment without cause or if Ms. Klaskin terminates her employment for good reason, she is entitled to:

a lump sum payment of 12 months of base salary plus the higher of her target incentive bonus for that year or her last actual incentive bonus,

coverage under our medical and dental plans for 12 months following the date of termination,

a lump sum payment of $10,000 for outplacement assistance,

a gross-up for any taxes with respect to such outplacement assistance payment, and

the acceleration of vesting of all unvested stock options as of the date of the change in control.

Additionally, under the officers employment and change of control agreements, they are each subject to a non-competition and non-solicitation period for the greater of 12 months post-termination or the period during which the officer is receiving post-termination payments from us.

	Termination in Connection with a Change of Control * ($)				**Termination without Cause or with Good Reason * ($)**			
Executive Benefits and Payments Upon Termination or Change of Control	**Ms. Klaskin**	**Ms. Valentine**	**Ms. Sharp**	**Ms. Wentworth**	**Ms. Klaskin**	**Ms. Valentine**	**Ms. Sharp**	**Ms. Wentworth**
Base Salary	185,000	330,000	360,000	360,000	N/A	220,000	240,000	240,000
Bonus Payment	55,500	99,000	144,000	144,000	N/A	66,000	96,000	96,000
Acceleration of Vesting of Equity	7,956	7,845	12,344	12,830	N/A	N/A	N/A	N/A
Perquisites and Other Personal Benefits	12,549	33,128	18,532	23,924	N/A	27,833	18,102	21,697
Gross-up Payments for Change of Control Excise Taxes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total:	261,005	469,973	534,876	540,754	N/A	313,833	354,102	357,697

* We used the following assumptions to calculate these payments:

We valued stock options accelerated using the closing price of our common stock on The NASDAQ Global Market on December 31, 2008, which was $0.48 per share, utilizing the same assumptions that we utilize under SFAS No. 123R for our financial reporting. Upon a change of control without termination, the acceleration of vested equity would be valued at $6,378, $6,322, $9,772, and $10,015 for Ms. Klaskin, Valentine, Sharp and Wentworth respectively.

We assumed in each case that termination is not for cause, the executive does not violate her non-competition or non-solicitation agreements with us following termination, the executive does not receive medical and dental insurance coverage from another employer within two years of termination or change of control (or, in the case of a termination absent a change of control, within the remaining term of the agreement, if longer) and the executive does not incur legal fees requiring reimbursement from us.

We used the same assumptions for health care benefits that we used for our financial reporting under generally accepted accounting principles.

Gross-up payments assume a December 31, 2008 change of control and termination date. For purposes of these payments, the following are included as parachute payments: cash severance payable upon termination in connection with a change of control, the value of any outplacement services and benefits

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continuation due in the event of such a termination, and the value of the acceleration of outstanding equity awards, all determined in accordance with applicable tax regulations. We have assumed that all outstanding options are cashed out in the assumed transaction for an amount equal to the excess, if any, of $0.48 (the closing price of our common stock on December 31, 2008, the last business day of the year) over the exercise price per share under the option, multiplied by the number of shares subject to the option. Finally, these figures assume that none of the parachute payments will be discounted as attributable to reasonable compensation and no value is attributed to the executive executing a non-competition agreement in connection with the assumed termination of employment.

Change of Control Arrangements Under Our 1999 EIP

Under our 1999 EIP, in the event of a change of control (as defined by the Committee appointed by the Board to administer the plan), the Committee in its discretion may provide for acceleration of unvested options, provide for a cash-out of options, adjust the options to reflect the change of control, or cause the options to be assumed.

DIRECTOR COMPENSATION

The following table shows the compensation paid or awarded to each non-employee director for their service as a non-employee director in 2008:

Name	Fees Earned or Paid in Cash (1) ($)	Option Awards (2) ($)	Total ($)
Tom Dechaene	71,500	22,367	93,867
Margaret M. Eisen	48,000	22,367	70,367
Wadih Jordan	41,500	22,367	63,867
Hyam I. Levitsky, M.D.	43,000	23,801	66,801
Timothy R. Wright	42,000	24,727	66,727
Peter Thornton (3)	37,000	14,101	51,101
Brian Corvese	47,500	23,356	70,856
John Hatsopoulos	34,000	20,870	54,870

(1) Includes fees earned in 2008 but deferred pursuant to our Directors Deferred Compensation Plan.

(2) We use the Black-Scholes option pricing model to value the options granted. Please see the notes to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K for the year ended December 31, 2008 for assumptions applied. Each director was granted 15,000 options with a grant date fair value of $22,367 during 2008.

(3) Mr. Thornton resigned from our Board on December 15, 2008.

Employee directors do not receive any additional compensation for their service as a director. Each year, the Compensation Committee reviews the compensation we pay to our non-employee directors. The Committee compares our Board compensation to compensation paid to non-employee directors by similarly sized public companies in similar businesses. The Committee also considers the responsibilities that we ask our Board members to assume and the amount of time required to perform those responsibilities.

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Cash and Equity Compensation for Non-Employee Directors for 2008

Type of Fee		
Annual retainer	$	34,000
Additional annual retainer for Lead Director	$	18,000
Additional annual retainer for Audit and Finance Committee Chair	$	18,000
Additional annual retainer for Audit and Finance Committee member	$	9,000
Additional annual retainer for Compensation Committee Chair	$	7,500
Additional annual retainer for Compensation Committee member	$	5,000
Additional annual retainer for Corporate Governance and Nominating Committee Chair	$	6,000
Additional annual retainer for Corporate Governance and Nominating Committee member	$	3,000
Additional annual retainer for Research and Development Committee Chair	$	6,000
Additional annual retainer for Research and Development Committee member	$	3,000
Initial stock option grant (1)		25,000 shares
Annual stock option grant (1)		15,000 shares

(1) Each stock option grant vests over three years in equal annual installments. Any unvested portion vests automatically on the last day of the term of a director who does not stand for reelection at the end of his or her term.

Antigenics also reimburses non-employee directors for reasonable travel and out-of-pocket expenses in connection with their service as directors.

Our Directors Deferred Compensation Plan permits each non-employee director to defer all or a portion of his or her cash compensation until his or her service ends or until a specified date. A director may credit his or her deferred cash into an interest bearing account, an equity account, or a combination of both. As a matter of policy, directors are encouraged to elect to defer twenty-five percent of their cash compensation in the form of equity under the Directors Deferred Compensation Plan.

The Board has adopted a policy guideline that encourages directors to hold 10,000 shares of equity within a reasonable period of time following their election or appointment to the Board. The directors may utilize the Directors Deferred Compensation Plan to acquire these shares. In accordance with the requirements of the plan, elections to defer such compensation must be made prior to the end of the third quarter of the prior calendar year. In some cases a director, due to securities law restrictions, may be unable to purchase such shares until such election takes effect.

Compensation Committee Interlocks and Insider Participation

The members of the Compensation Committee for the year ended 2008 were Mr. Jordan (Chair), Ms. Eisen, and Mr. Wright. No member of the Compensation Committee was at any time during 2008, or formerly, an officer or employee of Antigenics or any subsidiary of Antigenics. No executive officer of Antigenics has served as a director or member of the compensation committee (or other committee serving an equivalent function) of any other entity while an executive officer of that other entity served as a director of Antigenics or member of our Compensation Committee.

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COMPENSATION COMMITTEE REPORT

The Compensation Committee of the Board consists entirely of independent directors who are not officers or employees of Antigenics. The Compensation Committee charter is posted on the corporate governance section of the Company s website at *http://www.antigenics.com/investors/governance*. No material on our website is part of this Annual Report on Form 10-K.

The Compensation Committee of the Board has reviewed and discussed with management the foregoing Compensation Discussion and Analysis, and based on such review and discussion, the Compensation Committee recommended to the Board that the Compensation Discussion and Analysis be included in this Annual Report on Form 10-K for filing with the SEC.

By the Compensation Committee,

Wadih Jordan (Chair)

Margaret M. Eisen

Timothy R. Wright

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Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

EQUITY PLANS

Securities Authorized For Issuance Under Equity Compensation Plans

The following table provides information about the securities authorized for issuance under our equity compensation plans as of December 31, 2008:

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (1) (a)	Weighted Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plan (Excluding Securities Reflected in Column (a)) (2) (c)
Equity compensation plans approved by security holders	8,968,085	$ 4.59	1,499,899
Equity compensation plans not approved by security holders			
Total	8,968,085		1,499,899

(1) Includes (i) 237 options outstanding at an exercise price of $22.56 assumed in connection with our merger with Aronex Pharmaceuticals, Inc. in July 2001; (ii) 5,212 options outstanding at a weighted average exercise price of $8.13 assumed in our merger with Aquila Biopharmaceuticals Inc. in November 2000; and (iii) 128,171 shares issuable under our Directors Deferred Compensation Plan at a weighted average price of $2.33.

(2) Includes 12,975 shares that may be issued under our 1999 Employee Stock Purchase Plan (as amended) and 44,260 shares available under our Directors Deferred Compensation Plan.

OWNERSHIP OF OUR COMMON STOCK

Ownership By Management

On March 1, 2009, Antigenics had 66,785,617 shares of common stock issued and outstanding. This table shows certain information about the beneficial ownership of Antigenics common stock, as of that date, by:

- each of our current directors,
- each nominee for director,
- our Chief Executive Officer,
- our Chief Financial Officer,
- our Principal Accounting Officer,

our other most highly compensated executive officers who were serving as executive officers as of December 31, 2008 and are named in the Summary Compensation Table, and

all of our current directors and executive officers as a group.

According to SEC rules, we have included in the column Number of Issued Shares all shares over which the person has sole or shared voting or investment power as of March 1, 2009, and we have included in the column Number of Shares Issuable all shares that the person has the right to acquire within 60 days after March 1, 2009 through the exercise of any stock options, or in the case of directors, any shares to be distributed under the Directors Deferred Compensation Plan. All shares that a person has a right to acquire within 60 days

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of March 1, 2009 are deemed outstanding for the purpose of computing the percentage beneficially owned by the person, but are not deemed outstanding for the purpose of computing the percentage beneficially owned by any other person.

Unless otherwise indicated, each person has the sole power (or shares the power with a spouse) to invest and vote the shares listed opposite the person s name. Where applicable, ownership is subject to community property laws. Our inclusion of shares in this table as beneficially owned is not an admission of beneficial ownership of those shares by the person listed in the table. Except as noted, the address of each stockholder is c/o Antigenics Inc., 162 Fifth Avenue, Suite 900, New York, NY 10010.

Name	Number of Issued Shares	Number of Shares Issuable (1)	Total	Percent
Garo H. Armen, Ph.D. (2)	2,547,619(3)	1,242,888	3,790,507	5.6%
Tom Dechaene		93,020(4)	93,020	*
Margaret M. Eisen	20,000	70,000	90,000	*
John Hatsopoulos	105,000	32,650(6)	137,650	*
Wadih Jordan		137,656(5)	137,656	*
Hyam I. Levitsky, M.D.		37,042(7)	37,042	*
Peter Thornton	13,188		13,188	*
Timothy R. Wright		21,666	21,666	*
Brian Corvese		21,666	21,666	*
Shalini Sharp	90,091	146,867	236,958	*
Karen H. Valentine	34,674	75,350	110,024	*
Kerry A. Wentworth	46,172	150,300	196,472	*
Christine M. Klaskin	28,652	78,836	107,488	*
All current directors and executive officers as a group (13 persons) (8)	2,885,396	2,107,941	4,993,337	7.2%

* Less than one percent

(1) Shares that can be acquired upon the exercise of stock options vested as of 60 days following March 1, 2009, and in the case of directors, shares to be distributed under the Directors Deferred Compensation Plan.

(2) For Dr. Armen, excludes shares beneficially owned through Founder Holdings Inc. and Antigenics Holdings LLC. Founder Holdings Inc. owns approximately 79% of the outstanding members equity of Antigenics Holdings LLC. Antigenics Holdings LLC owns approximately 17% of our common stock. Dr. Armen is a manager of Antigenics Holdings LLC and a director of Founder Holdings Inc. Dr. Armen beneficially owns 43.7% of the outstanding common stock of Founder Holdings Inc. Dr. Armen also owns a 13.6% direct interest in Antigenics Holdings LLC.

(3) Includes 1,501,667 shares of our stock held by Armen Partners, LP, a limited partnership in which Dr. Armen is the general partner.

(4) Includes 20,820 deferred shares to be distributed in accordance with the terms of our Directors Deferred Compensation Plan.

(5) Includes 67,656 deferred shares to be distributed in accordance with the terms of our Directors Deferred Compensation Plan.

(6) Includes 24,317 deferred shares to be distributed in accordance with the terms of our Directors Deferred Compensation Plan.

(7) Includes 15,376 deferred shares to be distributed in accordance with the terms of our Directors Deferred Compensation Plan.

(8) Includes 112,793 deferred shares to be distributed in accordance with the terms of our Directors Deferred Compensation Plan and excludes shares held by Antigenics Holdings LLC as described in footnote (2).

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Ownership By Certain Beneficial Owners

This table shows certain information, based on filings with the SEC, about the beneficial ownership of our capital stock as of March 1, 2009 by each person known to us owning beneficially more than 5% of any class of our capital stock.

Name and Address	Title of Class	Number of Shares	Percent
Antigenics Holdings LLC (1) c/o Antigenics Inc. 162 Fifth Avenue, Suite 900 New York, New York 10010	Common	11,154,274(1)	16.70%
Brad M. Kelley 1410 Moran Road Franklin, TN 37069-6300	Common Series A Preferred	5,546,240 31,620(2)	8.30% 100%
Invus Public Equities Advisors LLC 750 Lexington Avenue 30th Floor New York, New York 10022	Common	3,533,333(3)	5.29%
Fletcher Asset Management, Inc. 48 Wall Street 5th Floor New York, NY 10005	Common Series B Preferred	1,459,576 5,250(4)	2.19% 100.0%
Ingalls & Synder, LLC 61 Broadway New York, NY 10006	Common	7,152,038(5)	10.71%
FMR LLC 82 Devonshire Street Boston, MA 02109	Common	8,000,000(6)	11.98%
BAM Capital LLC 44 Wall Street New York, NY 10005	Common	6,000,000(7)	8.98%

(1) Founder Holdings Inc. owns approximately 79% of the outstanding members equity of Antigenics Holdings LLC. Antigenics Holdings LLC owns approximately 17% of our common stock. Dr. Armen is a manager of Antigenics Holdings LLC and a director of Founder Holdings Inc. Dr. Armen beneficially owns 43.7% of Founder Holdings Inc. outstanding common stock. Dr. Armen owns a 13.6% direct

interest in Antigenics Holdings LLC.

(2) Mr. Kelley owns 31,620 shares of our series A convertible preferred stock, our only shares of outstanding series A preferred stock. These shares have an initial conversion price of $15.81 and are currently convertible into 2,000,000 shares of our common stock. If Mr. Kelley had converted all 31,620 shares of series A convertible preferred stock into shares of common stock as of March 1, 2009, he would have held 7,546,240 shares of our common stock, or 10.97% of the shares outstanding.

(3) Includes 3,533,333 shares of common stock held by Invus Public Equities Advisors, LLC and related entities (as reported in the Schedule 13G/A filed by Invus Public Equities Advisors, LLC on February 17, 2009).

(4) Fletcher Asset management, Inc. owns 5,250 shares of our series B convertible preferred stock, our only shares of outstanding series B preferred stock. As reported in the Schedule 13G/A filed by Fletcher Asset Management, Inc. on February 17, 2009, these shares are currently convertible into 4,618,482 shares of common stock. If converted, Fletcher Asset Management, Inc. and related persons would own 8.51% of the common shares outstanding.

(5) Includes 7,152,038 shares of common stock held by Ingalls & Synder, LLC and related entities (as reported in the Schedule 13G/A as filed by Ingalls & Synder, LLC on January 23, 2009).

(6) Includes 8,000,000 shares of common stock held by FMR LLC and related entities (as reported in the Schedule 13G as filed by FMR LLC on February 11, 2008).

(7) Includes 6,000,000 shares of common stock held by BAM Capital LLC and related entities (as reported in the Schedule 13G as filed by Antigenics Inc. on April, 29, 2008).

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Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Related Party Transactions

On January 9, 2008, the Company entered into agreements to receive $26.1 million from certain investors in a private placement of our common stock and warrants to purchase our common stock. In this placement, the Company sold: (i) 542,050 shares of common stock at $3.00 per share, (ii) 10-year warrants to purchase an additional 542,050 shares of common stock at an exercise price of $3.00 per share and (iii) unit warrants to purchase at an exercise price of $3.00 per unit, 542,050 shares of common stock and additional 10-year warrants to purchase an additional 542,050 shares of common stock at $3.00 per share, to our Founder, Chairman and Chief Executive Officer, Garo H. Armen, for an aggregate purchase price of $1,626,150. In the private placement, the Company also sold: (i) 1,166,667 shares of common stock at $3.00 per share, (ii) 10-year warrants to purchase an additional 1,166,667 shares of common stock at an exercise price of $3.00 per share and (iii) unit warrants to purchase at an exercise price of $3.00 per unit, 1,166,667 shares of common stock and additional 10-year warrants to purchase an additional 1,166,667 shares of common stock at $3.00 per share, to Armen Partners LP, a partnership controlled by Garo H. Armen, for an aggregate purchase price of $3,500,000. In each case, the unit warrants became exercisable upon the completion of our April 2008 financing transaction.

Related Party Transaction Policies and Procedures

The Audit and Finance Committee of the Board is responsible for reviewing and approving all material transactions with any related party on a continuing basis. Related parties can include any of our directors or executive officers, certain of our stockholders, and their immediate family members. This obligation is set forth in writing in our Audit and Finance Committee Charter. A copy of the Audit and Finance Committee Charter is posted on the corporate governance section of our website at *http://www.antigenics.com/investors/governance*. No material on our website is part of this Annual Report on Form 10-K. In evaluating related party transactions, stated above our Audit and Finance Committee members apply the same standards of good faith and fiduciary duty they apply to their general responsibilities as a Committee of the Board and as individual directors. The Audit and Finance Committee will approve a related party transaction when, in its good faith judgment, the transaction is in the best interest of Antigenics.

To identify related party transactions each year, we submit and require our directors and officers to complete Director and Officer Questionnaires identifying any transactions with us in which the officer or director or their family members have an interest. We also review related party transactions due to the potential for a conflict of interest. A conflict of interest occurs when an individual s private interest interferes, or appears to interfere, in any way with our interests. Our Code of Ethics requires all directors, officers, and employees who may have a potential or apparent conflict of interest to immediately notify our Compliance Officer for review and approval by management and our Corporate Governance and Nominating Committee. A copy of our Code of Ethics is posted on the corporate governance section of our website at *http://www.antigenics.com/investors/governance*.

INDEPENDENCE OF DIRECTORS

Our Governance Guidelines provide that a substantial majority of the Board as a whole should be composed of independent directors. The Corporate Governance and Nominating Committee annually reviews the independence of the directors, and reports to the Board which directors it recommends that the Board determine are independent, and the Board makes the final determination. The Board takes into account NASDAQ stock market listing standards, applicable laws and regulations, and other factors in making its determinations. The Board has determined that Mr. Corvese, Mr. Dechaene, Ms. Eisen, Mr. Hatsopoulos, Mr. Jordan, Dr. Levitsky, and Mr. Wright are currently independent directors and that Dr. Armen is currently not an independent director.

The Board has reviewed the independence of each director, taking into account potential conflicts of interest, transactions, and other relationships that would reasonably be expected to compromise a director s

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independence. In performing this review, the Board was provided a summary of information disclosed in director responses to a questionnaire inquiring about, among other things, their relationships (and those of their immediate family members) with us, their affiliations, and other potential conflicts of interest. Dr. Armen is not independent because of his employment as our Chief Executive Officer. In making independence determinations with regard to other directors, the Board considered transactions between us and a director or a director s affiliates and positions a director holds with entities with commercial relationships with us. In particular, with respect to Dr. Levitsky, the Board considered his role on the Company s Medical Advisory Committee.

Item 14. ***Principal Accountant Fees and Services***

The response to this item is incorporated by reference into this Annual Report on Form 10-K from the section entitled Proposal 7 Ratify the Appointment of KPMG LLP as our Independent Registered Public Accounting Firm for the Fiscal Year Ending December 31, 2009 in our Proxy Statement relating to our 2009 Annual Meeting of Stockholders scheduled for June 10, 2009.

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PART IV

Item 15. ***Exhibits, Financial Statement Schedules***

(a) 1. *Consolidated Financial Statements*

The consolidated financial statements are listed under Item 8 of this Annual Report on Form 10-K.

2. *Financial Statement Schedules*

The financial statement schedules required under this Item and Item 8 are omitted because they are not applicable or the required information is shown in the consolidated financial statements or the footnotes thereto.

3. *Exhibits*

The exhibits are listed below under Part IV Item 15(b).

(b) Exhibits

Exhibit Index

Exhibit No.	Description
3.1	Amended and Restated Certificate of Incorporation of Antigenics. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on June 10, 2002 and incorporated herein by reference.
3.1.1	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Antigenics Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on June 11, 2007 and incorporated herein by reference.
3.2	Third Amended and Restated By-laws of Antigenics Inc. Filed as Exhibit 3.2 to our amendment to Quarterly Report on Form 10-Q/A (File No. 0-29089) for the quarter ended September 30, 2008 and incorporated herein by reference.
3.3	Certificate of Designation, Preferences and Rights of the Series A Convertible Preferred Stock of Antigenics Inc. filed with the Secretary of State of the State of Delaware on September 24, 2003. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on September 25, 2003 and incorporated herein by reference.
3.4	Certificate of Designations, Preferences and Rights of the Class B Convertible Preferred Stock of Antigenics Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on September 5, 2007 and incorporated herein by reference.
4.1	Form of Common Stock Certificate. Filed as Exhibit 4.1 to our registration statement on Form S-1 (File No. 333-91747) and incorporated herein by reference.
4.2	Registration Rights Agreement dated August 2, 1989 by and among Aronex Pharmaceuticals, Inc. and certain of its stockholders. Filed as Exhibit 10.1 to the registration statement on Form S-1 (File No. 333-47418) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
4.3	First Amendment to Registration Rights Agreement dated April 18, 1990, by and among Aronex Pharmaceuticals, Inc. and certain of its stockholders. Filed as Exhibit 10.2 to the registration statement on Form S-1 (File No. 333-47418) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.

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Exhibit No.	Description
4.4	Second Amendment to Registration Rights Agreement dated October 31, 1991, by and among Aronex Pharmaceuticals, Inc. and certain of its stockholders. Filed as Exhibit 10.3 to the registration statement on Form S-1 (File No. 333-47418) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
4.5	Third Amendment to Registration Rights Agreement, dated September 10, 1993, among Aronex Pharmaceuticals, Inc. and certain of its stockholders. Filed as Exhibit 10.4 to the registration statement on Form S-1 (File No. 333-71166) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
4.6	Fourth Amendment to Registration Rights Agreement dated January 20, 1994, among Aronex Pharmaceuticals and certain of its stockholders. Filed as Exhibit 10.5 to the Annual Report on Form 10-K/A for the year ended December 31, 1999 (File No. 0-20111) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
4.7	Indenture, dated January 25, 2005, between the Registrant and HSBC Bank USA, National Association. Filed as Exhibit 4.1 to our Current Report on Form 8-K (File No. 0-29089) filed on January 25, 2005 and incorporated herein by reference.
4.8	Registration Rights Agreement, dated January 25, 2005, between the Registrant and the initial purchasers. Filed as Exhibit 4.2 to our Current Report on Form 8-K (File No. 0-29089) filed on January 25, 2005 and incorporated herein by reference.
4.9	Form of Note under the Securities Purchase Agreement dated as of October 30, 2006 by and among Antigenics Inc., a Delaware corporation and the investors listed on the Schedule of Buyers thereto. Filed as Exhibit 4.1 to our Current Report on Form 8-K (File No. 0-29089) filed on October 31, 2006 and incorporated herein by reference.
4.10	Form of PIK Note under the Securities Purchase Agreement dated as of October 30, 2006 by and among Antigenics Inc., a Delaware corporation and the investors listed on the Schedule of Buyers thereto. Filed as Exhibit 4.2 to our Current Report on Form 8-K (File No. 0-29089) filed on October 31, 2006 and incorporated herein by reference.
4.11	Pledge of Security Agreement dated as of October 30, 2006 by and among Antigenics Inc., a Delaware corporation and the investors listed on the Schedule of Buyers thereto. Filed as Exhibit 4.3 to our Current Report on Form 8-K (File No. 0-29089) filed on October 31, 2006 and incorporated herein by reference.
4.12	Guaranty dated as of October 30, 2006 by and between Antigenics Inc., a Massachusetts corporation and Ingalls & Snyder LLC, as Collateral Agent for the Buyers. Filed as Exhibit 4.4 to our Current Report on Form 8-K (File No. 0-29089) filed on October 31, 2006 and incorporated herein by reference.
4.13	Guaranty dated as of October 30, 2006 by and between Aronex Pharmaceuticals, Inc. and Ingalls & Snyder LLC, as Collateral Agent for the Buyers. Filed as Exhibit 4.5 to our Current Report on Form 8-K (File No. 0-29089) filed on October 31, 2006 and incorporated herein by reference.
4.14	Securities Purchase Agreement dated as of October 30, 2006 by and among Antigenics Inc., a Delaware corporation and the investors listed on the Schedule of Buyers thereto. Filed as Exhibit 4.6 to our Current Report on Form 8-K (File No. 0-29089) filed on October 31, 2006 and incorporated herein by reference.
4.15	Form of Warrant under the Securities Purchase Agreement dated January 9, 2008. Filed as Exhibit 4.1 to our Current Report on Form 8-K (File No. 0-29089) filed on January 11, 2008 and incorporated herein by reference.

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Exhibit No.	Description
4.16	Form of Contingent Warrant under the Securities Purchase Agreement dated January 9, 2008. Filed as Exhibit 4.2 to our Current Report on Form 8-K (File No. 0-29089) filed on January 11, 2008 and incorporated herein by reference.
4.17	Purchase Agreement dated August 31, 2007 by and between Antigenics Inc. and Fletcher International. Filed as Exhibit 99.1 to our Current Report on Form 8-K (File No. 0-29089) filed on September 5, 2007 and incorporated herein by reference.
4.18	Form of Debenture. Filed as Exhibit 4.1 to our Current Report on Form 8-K (File No. 0-12081) dated April 13, 1998 and incorporated herein by reference.
4.19	Securities Purchase Agreement dated April 8, 2008. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on April 10, 2008 and incorporated herein by reference.
4.20	Form of Warrant to purchase common stock dated April 9, 2008. Filed as Exhibit 4.1 to our Current Report on Form 8-K (File No. 0-29089) filed on April 10, 2008 and incorporated herein by reference.
4.21	Securities Purchase Agreement by and between Antigenics Inc. and the investors identified on Schedule I attached to the agreement, dated January 9, 2008. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on January 11, 2008 and incorporated herein by reference.
10.1*	1999 Equity Incentive Plan, as amended. Filed herewith.
10.1.2	Form of Non-Statutory Stock Option. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on December 15, 2004 and incorporated herein by reference.
10.1.3*	Form of 2007 Restricted Stock Award Agreement. Filed as an exhibit to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2007 and incorporated herein by reference.
10.1.4*	Form of 2008 Restricted Stock Award Agreement. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on March 11, 2008 and incorporated herein by reference.
10.2*	1999 Employee Stock Purchase Plan, as amended. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on June 11, 2007 and incorporated herein by reference.
10.3	Founding Scientist s Agreement between Antigenics and Pramod K. Srivastava, Ph.D. dated March 28, 1995. Filed as Exhibit 10.3 to our registration statement on Form S-1 (File No. 333-91747) and incorporated herein by reference.
10.3.1(1)	Amendment to Founding Scientist s Agreement dated January 1, 2003. Filed as Exhibit 10.29 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2002 and incorporated herein by reference.
10.4	Form of Indemnification Agreement between Antigenics and its directors and executive officers. These agreements are materially different only as to the signatories and the dates of execution. Filed as Exhibit 10.4 to our registration statement on Form S-1 (File No. 333-91747) and incorporated herein by reference. Current schedule identifying the directors and executive officers filed as Exhibit 10.4 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2007 and incorporated herein by reference.
10.5(1)	Patent License Agreement between Antigenics and Mount Sinai School of Medicine dated November 1, 1994, as amended on June 5, 1995. Filed as Exhibit 10.8 to our registration statement on Form S-1 (File No. 333-91747) and incorporated herein by reference.
10.6(1)	Sponsored Research and Technology License Agreement between Antigenics and Fordham University dated March 28, 1995, as amended on March 22, 1996. Filed as Exhibit 10.9 to our registration statement on Form S-1 (File No. 333-91747) and incorporated herein by reference.

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Exhibit No.	Description
10.7*	Antigenics 401(k) Plan. Filed as Exhibit 10.17 to our registration statement on Form S-1 (File No. 333-91747) and incorporated herein by reference.
10.8*	Antigenics L.L.C. Incentive Equity Plan. Filed as Exhibit 10.18 to our registration statement on Form S-1 (File No. 333-91747) and incorporated herein by reference.
10.9	Lease Agreement by and between Aquila Biopharmaceuticals, Inc. and NDNE 9/90 Corporate Center LLC effective September 19, 1997. Filed as Exhibit 10.1 to Amendment No. 1 to registration statement on Form S-3 (File No. 333-46641) of Aquila Biopharmaceuticals, Inc. and incorporated herein by reference.
10.9.1	First Amendment to Lease Agreement by and between Aquila Biopharmaceuticals, Inc. and NDNE 9/90 Corporate Center LLC dated December 17, 1997. Filed as Exhibit 10.1 to Amendment No. 1 to registration statement on Form S-3 (File No. 333-46641) of Aquila Biopharmaceuticals, Inc. and incorporated herein by reference.
10.9.2	Second Amendment to Lease Agreement by and between Aquila Biopharmaceuticals, Inc. and NDNE 9/90 Corporate Center LLC dated January 14, 1998. Filed as Exhibit 10.1 to Amendment No. 1 to registration statement on Form S-3 (File No. 333-46641) of Aquila Biopharmaceuticals, Inc. and incorporated herein by reference.
10.9.3	Third Amendment to Lease Agreement by and between Aquila Biopharmaceuticals, Inc. and NDNE 9/90 Corporate Center LLC dated February 3, 1998. Filed as Exhibit 10.1 to Amendment No. 1 to registration statement on Form S-3 (File No. 333-46641) of Aquila Biopharmaceuticals, Inc. and incorporated herein by reference.
10.9.4	Fourth Amendment to Lease Agreement by and between Aquila Biopharmaceuticals, Inc. and NDNE 9/90 Corporate Center LLC dated February 27, 1998. Filed as Exhibit 10.1 to Amendment No. 1 to registration statement on Form S-3 (File No. 333-46641) of Aquila Biopharmaceuticals, Inc. and incorporated herein by reference.
10.9.5	Fifth Amendment to Lease Agreement by and between Aquila Biopharmaceuticals, Inc. and NDNE 9/90 Corporate Center LLC dated March 13, 1998. Filed as Exhibit 10.1 to Amendment No. 1 to registration statement on Form S-3 (File No. 333-46641) of Aquila Biopharmaceuticals, Inc. and incorporated herein by reference.
10.9.6	Sixth Amendment to Lease Agreement by and between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.) and wholly owned subsidiary of Antigenics and NDNE 9/90 Corporate Center LLC dated March 16, 2004. Filed as Exhibit 10.9.6 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2007 and incorporated herein by reference.
10.10	Consent to Assignment of Lease Agreement by and between Aquila Biopharmaceuticals, Inc., Antigenics Inc., a Massachusetts corporation and wholly owned subsidiary of Antigenics, and NDNE 9/90 Corporate Center LLC dated May 8, 2001. Filed as Exhibit 10.10 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2007 and incorporated herein by reference.
10.11	First Amendment to Consent to Sublease Agreement by and between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.) and wholly owned subsidiary of Antigenics, GTC Biotherapeutics, Inc., and NDNE 9/90 Corporate Center LLC dated March 16, 2004. Filed as Exhibit 10.11 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2007 and incorporated herein by reference.
10.12	Sublease Agreement between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.) and wholly owned subsidiary of Antigenics, and GTC Biotherapeutics, Inc. dated July 16, 2002. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2002 and incorporated herein by reference.

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Exhibit No.	Description
10.12.1	First Amendment to Sublease Agreement between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.) and wholly owned subsidiary of Antigenics, and GTC Biotherapeutics, Inc. dated March 16, 2004. Filed as Exhibit 10.2 to our Current Report on Form 8-K (File No. 0-29089) filed on April 1, 2004 and incorporated herein by reference.
10.13	Leasehold Lease Agreement between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.) and wholly owned subsidiary of Antigenics, and GTC Biotherapeutics, Inc. dated July 19, 2002. Filed as Exhibit C of Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2002 and incorporated herein by reference.
10.13.1	First Amendment to Leasehold Lease Agreement between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.) and wholly owned subsidiary of Antigenics, and GTC Biotherapeutics, Inc. dated March 16, 2004. Filed as Exhibit B of Exhibit 10.2 to our Current Report on Form 8-K (File No. 0-29089) filed on April 1, 2004 and incorporated herein by reference.
10.14	Side Letter between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.), and GTC Biotherapeutics, Inc. dated March 16, 2004. Filed as Exhibit 10.14 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2007 and incorporated herein by reference.
10.15	Antigenics Consent Agreement between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.), GTC Biotherapeutics, Inc., and General Electric Capital Corporation dated February 28, 2007. Filed as Exhibit 10.15 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2007 and incorporated herein by reference.
10.16	Sublease Agreement by and between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.), and PP Manufacturing, a Delaware corporation, dated March 16, 2004. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on April 1, 2004 and incorporated herein by reference.
10.17(1)	Exclusive License Agreement dated September 24, 1986, between Aronex Pharmaceuticals, Inc. (formerly Argus Pharmaceuticals Inc.), The University of Texas System Board of Regents and The University of Texas M.D. Anderson Cancer Center. Filed as Exhibit 10.8 to the registration statement on Form S-1 (File No. 333-47418) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
10.18(1)	Exclusive License Agreement dated July 1, 1988, between Aronex Pharmaceuticals, Inc., (formerly Argus Pharmaceuticals Inc.), The University of Texas System Board of Regents and The University of Texas M.D. Anderson Cancer Center. Filed as Exhibit 10.10 to the registration statement on Form S-1 (File No. 333-47418) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
10.18.1(1)	Amendments No. 1, 2, 3, 5, 6 and 7 to Exclusive License Agreement and Letter Agreement, dated July 18, 2005, among Aronex Pharmaceuticals, Inc. (formerly Argus Pharmaceuticals Inc.), The University of Texas System Board of Regents and The University of Texas M.D. Anderson Cancer Center. Filed as Exhibit 10.18.1 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2007 and incorporated herein by reference.
10.18.2(1)	Amendment No. 4 to Exclusive License Agreement, dated July 9, 1993, among Aronex Pharmaceuticals, Inc. (formerly Argus Pharmaceuticals Inc.), The University of Texas System Board of Regents and The University of Texas M.D. Anderson Cancer Center. Filed as Exhibit 10.20 to the registration statement on Form S-1 (File No. 333-71166) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.

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Exhibit No.	Description
10.19(1)	Amended and Restated License Agreement, dated September 1, 2003, between Antigenics Inc. and Sumitomo Pharmaceuticals Co., Ltd. Filed as Exhibit 10.19 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2007 and incorporated herein by reference.
10.20	Lease of Premises at 3 Forbes Road, Lexington, Massachusetts dated as of December 6, 2002 from BHX, LLC, as Trustee of 3 Forbes Realty Trust, to Antigenics. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on January 8, 2003 and incorporated herein by reference.
10.20.1	First Amendment of Lease dated as of August 15, 2003 from BHX, LLC as trustee of 3 Forbes Road Realty, to Antigenics Inc. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2004 and incorporated herein by reference.
10.20.2	Second Amendment of Lease dated as of March 7, 2007 from BHX, LLC as trustee of 3 Forbes Road Realty, to Antigenics Inc. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2007 and incorporated herein by reference.
10.20.3	Third Amendment to Lease dated April 23, 2008 between TBCI, LLC, as successor to BHX, LLC, as Trustee of 3 Forbes Road Realty Trust, and Antigenics Inc. Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2008 and incorporated herein by reference.
10.20.4	Fourth Amendment to Lease dated September 30, 2008 between TBCI, LLC, as successor to BHX, LLC, as Trustee of 3 Forbes Road Realty Trust, and Antigenics Inc. Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended September 30, 2008 and incorporated herein by reference.
10.21*	Antigenics Inc. Directors Deferred Compensation Plan, as amended. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on June 11, 2007 and incorporated herein by reference.
10.22(1)	License Agreement between the University of Connecticut Health Center and Antigenics Inc. dated May 25, 2001, as amended on March 18, 2003. Filed as Exhibit 10.2 to the Amendment No. 1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2003 and incorporated herein by reference.
10.23*	Employment Agreement dated February 20, 2007 between Antigenics Inc. and Shalini Sharp. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on February 26, 2007 and incorporated herein by reference.
10.24*	Employment Agreement dated February 20, 2007 between Antigenics Inc. and Kerry Wentworth. Filed as Exhibit 10.2 to our Current Report on Form 8-K (File No. 0-29089) filed on February 26, 2007 and incorporated herein by reference.
10.25*	Employment Agreement dated December 1, 2005 between Antigenics Inc. and Garo Armen. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on December 7, 2005 and incorporated herein by reference.
10.26*	Executive Change of Control Plan. Filed as Exhibit 10.33 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2005 and incorporated herein by reference.
10.27*	2004 Executive Incentive Plan. Filed as Exhibit 10.28 to our Annual Report on Form 10-K for the year ended December 31, 2007 and incorporated herein by reference.
10.28*	Consulting Agreement dated March 28, 2006 between Antigenics Inc. and Pramod Srivastava. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on March 28, 2006 and incorporated herein by reference.

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Exhibit No.	Description
10.29(1)	License Agreement by and between Antigenics Inc. and GlaxoSmithKline Biologicals SA dated July 6, 2006. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2006 and incorporated herein by reference.
10.30(1)	Manufacturing Technology Transfer and Supply Agreement by and between Antigenics Inc. and GlaxoSmithKline Biologicals SA dated July 6, 2006. Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2006 and incorporated herein by reference.
10.31(1)	Binding Letter of Intent by and between Antigenics Inc. and GlaxoSmithKline Biologicals SA dated July 6, 2007. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended September 30, 2007 and incorporated herein by reference.
10.32	Standard Form of Loft Lease effective October 24, 2006 between 162 Fifth Avenue Associates LLC and Antigenics Inc. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended September 30, 2006 and incorporated herein by reference.
10.33	Form of the Johns Hopkins University Uniform Provisions for Board Service. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) dated September 13, 2006 and incorporated herein by reference.
10.34	License Agreement by and between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.), Neuralab Limited, and Elan Pharmaceuticals, Inc. dated November 23, 1999. Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended September 30, 2007 and incorporated herein by reference.
10.35	Supply Agreement by and between Antigenics Inc., a Massachusetts corporation (formerly Aquila Biopharmaceuticals, Inc.), Neuralab Limited, and Elan Pharmaceuticals, Inc. dated November 23, 1999. Filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended September 30, 2007 and incorporated herein by reference.
10.36	Consent to Assignment and Guarantee of License and Supply Agreements by and between Antigenics Inc., Elan Corporation, plc, and Elan Pharma International Limited dated September 12, 2007. Filed as Exhibit 10.4 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended September 30, 2007 and incorporated herein by reference.
10.37	Sales Agreement dated March 14, 2008 between Antigenics Inc. and Wm Smith & Co. Filed as Exhibit 1.1 to our Current Report on Form 8-K (File No. 0-29089) filed on March 14, 2008 and incorporated herein by reference.
10.37.1	Amendment No. 1 to Sales Agreement dated July 8, 2008 between Antigenics Inc. and Wm Smith & Co. Filed as Exhibit 1.1 to our Current Report on Form 8-K (File No. 0-29089) filed on July 10, 2008 and incorporated herein by reference.
10.38*	Employment Agreement dated September 16, 2008 between Antigenics Inc. and Karen Valentine. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on September 19, 2008 and incorporated herein by reference.
10.39	Master Services Agreement dated May 24, 2007, between Antigenics Inc. and Raifarm Limited; Assignment and Assumption Agreement dated June 15, 2007; Amendment Number One to the Master Services Agreement dated February 27, 2008; Letter Agreement dated March 18, 2008; and Letter Agreement dated April 4, 2008. Filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2008 and incorporated herein by reference.

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Exhibit No.	Description
10.39.1	Amendment to Exhibit A-5 dated June 5, 2008 to Master Services Agreement dated May 24, 2007, between Antigenics Inc. and Raifarm Limited. Filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2008 and incorporated herein by reference.
21	Subsidiaries of Antigenics Inc. Filed as Exhibit 21 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2004 and incorporated herein by reference.
23	Consent of KPMG LLP, independent registered public accounting firm. Filed herewith.
31.1	Certification of Chief Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended. Filed herewith.
31.2	Certification of Chief Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended. Filed herewith.
32.1(2)	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. Submitted herewith.

* Indicates a management contract or compensatory plan.

(1) Certain confidential material contained in the document has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act or Rule 24b-2 of the Securities Exchange Act.

(2) This certification accompanies the Annual Report on Form 10-K and is not filed as part of it.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ANTIGENICS INC.

By: /s/ GARO H. ARMEN, PH.D.
Garo H. Armen, Ph.D.
Chief Executive Officer and

Chairman of the Board

Dated: March 16, 2009

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant in the capacities indicated as of March 16, 2009.

Signature	Title
/s/ GARO H. ARMEN, PH.D. **Garo H. Armen, Ph.D.**	Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer)
/s/ SHALINI SHARP **Shalini Sharp**	Vice President and Chief Financial Officer (Principal Financial Officer)
/s/ CHRISTINE M. KLASKIN **Christine M. Klaskin**	Vice President, Finance (Principal Accounting Officer)
/s/ BRIAN CORVESE **Brian Corvese**	Director
/s/ TOM DECHAENE **Tom Dechaene**	Director
/s/ MARGARET EISEN **Margaret Eisen**	Director
/s/ JOHN HATSOPOULOS **John Hatsopoulos**	Director
/s/ WADIH JORDAN **Wadih Jordan**	Director

/s/ HYAM I. LEVITSKY, MD — Director

Hyam I. Levitsky, MD

/s/ TIMOTHY R. WRIGHT — Director

Timothy R. Wright