EMCORE CORP
Form 8-K
April 18, 2005

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

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

April 18, 2005
Date of Report (Date of earliest event reported)

EMCORE CORPORATION
Exact name of registrant as specified in its charter

New Jersey	**0-22175**	**22-2746503**
State of Incorporation	*Commission File Number*	*IRS Employer Identification No.*

145 Belmont Drive, Somerset, New Jersey, 08873
Address of principal executive offices, including Zip Code

(732) 271-9090
Registrant's telephone number, including area code

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:
o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 7.01. Regulation FD Disclosure.

On April 18, 2005, EMCORE Corporation (the "Registrant") issued a press release announcing that its PhotoVoltaics Division is consolidating solar panel operations into its state-of-the-art Albuquerque, NM facility. A copy of this press release is attached as Exhibit 99.1 to this Current Report.

The information contained in this Current Report, including Exhibit 99.1 hereto, shall not be incorporated by reference into any filing of the Registrant, whether made before or after the date hereof, regardless of any general incorporation language in such filing, unless expressly incorporated by specific reference to such filing. Furthermore, the information contained in this Current Report, including Exhibit 99.1 hereto, shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise be subject to the liabilities of that section or Sections 11 and 12(a)(2) of the Securities Act of 1933, as amended.

Item 9.01. Financial Statements and Exhibits.

(c) Exhibits

Exhibit No.	Description
99.1	Press Release of EMCORE Corporation, dated April 18, 2005.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

EMCORE CORPORATION

By: /s/ Thomas G. Werthan

Thomas G. Werthan
Chief Financial Officer

Dated: April 18, 2005

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press Release of EMCORE Corporation, dated April 18, 2005.

Status

Product	Phase 3(1)	Phase 2	Phase 1
Oncophage			
	Renal cell carcinoma(2)	Colorectal cancer(2)	Pancreatic cancer(2) Melanoma(2) Non-Hodgkin s lymphoma(2)
	Gastric cancer(2)	Lung cancer	
AG-858			
		Chronic myelogenous leukemia	
AG-702			
		Genital herpes	
Aroplatin			
		Colorectal cancer(2)(3)	

(1) These are multi center trials being conducted in the U.S. as well as internationally.

(2) These trials are closed to enrollment.

(3) We do not intend to initiate new clinical trials of Aroplatin until we complete our review of this program.

Oncophage

Introduction

Oncophage, our most advanced product candidate, is a personalized therapeutic cancer vaccine that is based on heat shock protein gp96 and is currently in Phase 3 clinical trials for the treatment of renal cell carcinoma and metastatic melanoma. 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 overnight to our manufacturing facility in Massachusetts. In our current Phase 3 trials, we generally require seven grams of tumor tissue to yield a sufficient amount of Oncophage for a typical course of treatment.

Using a proprietary manufacturing process that takes approximately eight to ten hours per individual patient lot, we isolate the heat shock protein peptide complexes, or HSPPCs, from the tumor tissue. Through this isolation process, the HSPPCs are extracted and purified from the tumor tissue, then formulated in sterile saline solution and packaged in standard single injection vials. After the performance of stringent quality control testing, including sterility testing, we ship Oncophage frozen back to the hospital pharmacy for administration after a patient has fully recovered from surgery, which is usually four to six weeks later. 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 larger quantities of tumor tissue from the surgical procedure.

We filed an investigational new drug application, or IND, for Oncophage in November 1996 that the FDA allowed on December 20, 1996. We started enrolling patients in our first clinical trial at Memorial Sloan-Kettering Cancer Center in New York, New York in November 1997. To date, we have treated over 700 cancer patients with Oncophage in our clinical trials.

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

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Oncophage Clinical Programs

Renal Cell Carcinoma

Background. Renal cell carcinoma is the most common type of kidney cancer. The American Cancer Society estimates that there will be 35,000 new cases of kidney cancer in the United States in 2004, and about 12,000 people will die from the disease. Renal cell carcinoma accounts for about 85 percent of all kidney tumors. By the time renal cell carcinoma is diagnosed in these patients, about one-third of them will have developed metastatic disease.

The current standard of care for patients with non-metastatic renal cell carcinoma consists of a nephrectomy, or surgical removal of the kidney, followed by observation. For patients with metastatic disease, the only FDA approved treatment is intravenous high-dose interleukin-2, a human cytokine, which is a hormone-like protein that facilitates communication between cells of the immune system. The response rate, which includes partial responses and complete responses, of patients who are treated with high-dose interleukin-2 is approximately 15 percent. Treatment with high-dose interleukin-2 often causes severe adverse side effects. These side effects often can lead to discontinuation of treatment. Although not FDA-approved for the treatment of renal cell carcinoma, a lower-dose of interleukin-2 injected subcutaneously, or underneath the skin, either alone or in combination with other cytokines, has become a treatment option. This treatment regimen has been the subject of a number of studies with widely varying outcomes, none of which have demonstrated any survival benefit. Unlike for metastatic renal cell carcinoma listed above, there is no FDA approved treatment for non-metastatic renal cell carcinoma at the present time.

Clinical Trials. In a Phase 1/2 trial conducted at M.D. Anderson Cancer Center, in Houston, Texas, we enrolled patients with metastatic renal cell carcinoma. The trial was opened for enrollment on February 4, 1998, and 38 patients with renal cell carcinoma were treated in the study. Of the 38 treated patients, one patient had a complete response and two patients had a partial response. Another seven patients showed no substantial change in their disease status, which is referred to as disease stabilization. The reported median time from surgery to worsening or progession of disease (time to progression) was 2.9 months and the reported median time from surgery to death (survival) was 1.3 years from date of surgery. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. No serious adverse events were reported with treatment with Oncophage.

A Phase 2 trial for patients with metastatic renal cell carcinoma was initiated at M.D. Anderson Cancer Center in March 1999. Findings from this trial were presented at the 39th annual meeting of the American Society of Clinical Oncology, or ASCO, in June 2003. At the ASCO meeting, the clinical investigators reported preliminary data on 61 patients with metastatic renal cell carcinoma treated with at least one dose of Oncophage. One patient was reported to have had a complete response, two additional patients were reported to have had partial responses and eighteen patients were reported to have had disease stabilization. Final results of the study are being evaluated. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. In this trial patients were treated with Oncophage until progression and IL-2 after progression. No significant toxicity was observed to be associated with Oncophage treatment.

Oncophage received Fast Track designation for the treatment of renal cell carcinoma from the FDA in October 2001. Oncophage is the first personalized cancer vaccine to receive Fast Track designation. Oncophage also received Orphan Drug status in renal cell carcinoma from the FDA in May 2002.

We initiated a Phase 3, multicenter, international trial for non-metastatic renal cell carcinoma identified as Study C-100-12 in 2000 into which the first patient was randomized in February 2001. We did not submit a special protocol assessment to the FDA for this trial as the guidance for such was not finalized until May 2002. Such an assessment would generally seek confirmation that the FDA would consider the clinical trial protocol acceptable for purposes of product approval. We are conducting this trial at sites located in the following countries USA, Canada, Belgium, Germany, France, Austria, Sweden, Switzerland, Norway, Spain, UK, Netherlands, Israel, Russia and Poland. On September 2, 2003, the FDA imposed a partial clinical hold on our Phase 3 clinical trials because of inadequate data to support specifications for our product purity, identity, potency, and pH. The FDA provided comments and requested additional information. During the pendency of

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the partial clinical hold, we could not enroll any additional patients in our Phase 3 trials in renal cell carcinoma and melanoma. Patients who were already enrolled or in the screening process for enrollment were allowed to continue with the study procedures including therapy with Oncophage. We produced information in response to the FDA comments mentioned above in a submission on October 22, 2003. On November 24, 2003 we announced that the FDA had lifted the partial clinical hold because the issues raised had been satisfactorily addressed. The FDA had additional comments suggesting that we should attempt to reduce the variability among assay readings, that we should use patients full names rather than initials on the vaccine tubes, that we should comment on the use of different formulations for the melanoma and renal cancer Oncophage trials, and, finally, that we should use SAS rather than EXCEL as our statistical computer program. The FDA did not impose any conditions or limitations when it lifted the partial clinical hold in November 2003. After the clinical hold was lifted, we submitted our validation package to the FDA for the qualified potency assays, and we are awaiting their response. Validation of the assays refers, in general terms, to establishing the robustness and reproducibility of the assays on an ongoing basis and under various different conditions to demonstrate that the qualified potency assays, accepted by the FDA for continuation of the clinical trial, work consistently. The FDA may request changes in the validation package, and we will incorporate all agreed upon changes in the final validation package.

In late December 2003, we announced achievement of a major milestone of this trial. A planned interim analysis of the data from our Phase 3 renal cell carcinoma trial was conducted. Based on its review of the safety data, efficacy data and other information regarding the trial, the independent Data Monitoring Committee, a panel of cancer specialists who are reviewing the safety and conduct of the trial at regular intervals but are not otherwise involved in the study, recommended that the trial proceed as planned and advised that there was no need to change the number of patients we planned to enroll in this trial. The Data Monitoring Committee also declared the design and conduct of the trial sound and raised no safety concerns. We remain blinded to the efficacy data from the trial. The members of the Data Monitoring Committee are only affiliated with us through this DMC relationship. We pay the members $2,000 per meeting pursuant to individual contracts.

This trial has been closed to enrollment. The final analysis for the trial will be triggered once a pre-specified number of events occur. An event is defined as a recurrence of a patient s renal cell carcinoma or death of a patient. Events are reviewed and confirmed, on a blinded basis, by an independent Clinical Events Committee comprised of expert radiologists and an expert oncologist. Based on the overall trend of events in this trial to date, we estimate that the earliest the final analysis for this trial will occur is in early 2005. The final analysis for the endpoint of recurrence-free survival in trial C-100-12 is a prospectively defined statistical analysis, which will occur at a time when a pre-defined number of patients in the study have had re-occurrence (recurrence) of their disease. It is termed final analysis because it is set up to be the last analysis performed in the study for that endpoint and its results will determine the success of the trial with respect to that endpoint.

On July 20, 2004, we held a meeting with the FDA medical review team for Oncophage in renal cell carcinoma. The medical review team is specifically focused on the review of patient safety, product efficacy, clinical protocols and clinical development plan-related issues. This compares to the product review team, which is focused on the review of non-clinical issues such as product features, chemistry, manufacturing, and formulation. The purpose of the meeting with the medical review team was to address issues surrounding the clinical development plan for product registration of Oncophage in renal cell carcinoma. This was a Type A meeting; such meetings are typically held to review critically important issues for the development of a product and are scheduled within 30 days of the meeting request. The FDA expressed agreement with our overall proposed registration plan. This plan includes using the current Phase 3 trial as part of our product registration strategy and dividing the study into two components of the trial. We plan to initiate a part II Phase 3 trial in early 2005. Following the final analysis of our current Phase 3 clinical trial, we intend to consult with the FDA and present additional data and rationale to determine if a biologics license application (BLA) filing could be achieved while part II of the trial is still ongoing. In the event such a determination is made, we would complete preparation and submission of a BLA document. We would expect that the FDA review process of such application would take approximately 6 months from the date of filing if accelerated review is granted and that commercialization will commence if approval is granted.

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The FDA has indicated that, by itself, part I of our ongoing Phase 3 clinical trial in renal cell carcinoma is not sufficient to support a BLA filing. We intend to expand our clinical development plan by initiating a second part to this Phase 3 trial in a similar patient population. The FDA has approved this registration plan, which comprises two components part I and part II. The FDA has indicated that part I alone will not be sufficient for approval, as they consider part II of the trial as potentially providing the definitive evidence of safety and efficacy; however, we expect that part I will be accepted as part of the BLA filing. While the FDA has expressly excluded the possibility that part I of our renal cell carcinoma trial alone can support a BLA filing, we intend to complete part I, which is a large controlled study, perform final analysis, and review the data closely. Should the results from the first part of the trial be clearly positive in terms of clinical outcomes, we plan to submit the data to the FDA and request that the agency reconsider its position regarding the use of the data from part I of the trial alone to support a BLA filing, while part II of the study is continuing. We expect to support this position with data which may demonstrate that Oncophage used in part I of the study be considered sufficiently characterized. We would expect to derive that data from additional tests we plan to perform on frozen portions of the administered product. We plan to complete such tests if and when the FDA accepts the validation of our qualified assays for potency. We believe that the FDA is unlikely to reverse its position unless part I of the trial demonstrates significant benefit to patients. We believe that demonstration of efficacy might be persuasive given (1) part I of our Phase 3 renal cell carcinoma trial is designed to show that patients being treated with Oncophage have approximately a 44% recurrence-free survival advantage over patients in the observation arm, which we believe would be regarded as a substantial benefit in this patient population, (2) Oncophage has a favorable safety profile, particularly when compared with the toxicity associated with many cancer drugs, (3) part I of the trial represents the largest single randomized trial to date in this patient population and was designed to show statistically significant results, and (4) the patients with the stage of renal cell carcinoma addressed in this trial have no approved post-surgical treatment options. Other companies have submitted BLAs, and obtained approvals, based on data from non-definitive Phase 2 and Phase 3 studies while the companies complete confirmatory studies. We are not aware of a situation in which the FDA has reconsidered its position that a clinical trial could not be considered pivotal, and therefore would not support licensure, because of its determination that the product candidate was insufficiently characterized. However, as noted previously, we plan to perform additional tests of Oncophage product samples produced prior to December 2003 and attempt to demonstrate that our product should be considered sufficiently characterized. There is no assurance that we will be successful in demonstrating that our product is sufficiently characterized or that the FDA would accept such a strategy.

Melanoma

Background. Melanoma is the most serious form of skin cancer. According to the American Cancer Society, melanoma accounts for only about 4 percent of skin cancer cases, yet it causes about 79 percent of skin cancer deaths. The American Cancer Society also estimates that physicians will diagnose about 55,100 new cases of melanoma in the United States in 2004 and that the disease will kill approximately 7,910 people in 2004. The incidence of melanoma is growing at a rate of approximately 3 percent per year based on a report of the American Cancer Society.

Oncologists treat advanced or metastatic melanoma, also known as stage III or 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 melanoma. The median survival of patients with stage III melanoma varies widely according to published literature. According to published literature, the median survival of patients with late stage III melanoma is about 24 months and patients with stage IV melanoma have a median survival of about seven months. Although oncologists use various treatments, the only FDA approved therapies for patients with metastatic melanoma are high-dose intravenous interleukin-2 and alpha interferon, another human cytokine.

Clinical Trials. We have treated 36 patients in a Phase 1/2 clinical trial, evaluating Oncophage as a treatment for late stage III and early stage IV metastatic melanoma, as well as 45 patients in a Phase 2 clinical trial for patients with stage IV disease. In the phase 1/2 study (C-100-02), which evaluated HSPPC-96

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vaccination in patients with advanced non-metastatic or limited metastatic melanoma (Stage III N2 or Stage IV), 13 of 20 patients (65%) treated with vaccine and who also had complete surgical removal of all cancer are still alive after six years compared to one of 16 (6%) patients that still had some cancer left after surgery and are still alive after six years. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. The investigator reported data from the Phase 2 trial (C-100-06) that showed that 28 patients had residual disease after surgery and, of these patients, five patients responded favorably to Oncophage, including one who was reported to have achieved a complete response for more than five years. The investigators also reported that Oncophage vaccination generated anti-melanoma immune responses in about one-half of the patients. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. Results of this Phase 2 trial were presented by the investigators at the American Society of Clinical Oncologists, or ASCO, meeting in May 2001 and the American Association for Cancer Research, or AACR, meeting in October 2001 where it was selected by the conference organizers as one of six presentations out of over 800 to be highlighted and presented to the press. In October 2002, the results from this trial were published in the Journal of Clinical Oncology, the official journal of ASCO.

Oncophage received Fast Track designation for the treatment of melanoma in February 2002. Oncophage also received Orphan Drug status in metastatic melanoma from the FDA in July 2002. In February 2002, we initiated a multicenter, international Phase 3 trial in metastatic melanoma identified as Study C-100-21. We are conducting this trial at sites located in the following countries USA, UK, Italy, Poland, Sweden, Hungary, Australia, Russia and Ukraine. On September 2, 2003, the FDA imposed a partial clinical hold on our Phase 3 clinical trials because of inadequate data to support specifications for our product purity, identity, potency, and pH. The FDA provided comments and requested additional information in a letter received October 1, 2003. During the pendency of the partial clinical hold, we could not enroll any additional patients in our Phase 3 trials in renal cell carcinoma and melanoma. Patients, who were already enrolled or in the screening process for enrollment, were allowed to continue with the study procedures including therapy with Oncophage. We produced information in response to the FDA comments mentioned above in a submission on October 22, 2003. On November 21, 2003 the FDA lifted the partial clinical hold because the issues raised had been satisfactorily addressed. The FDA did not impose any conditions or limitations when it lifted the partial clinical hold in November 2003. At that time, the FDA requested further information regarding Oncophage and the established potency assay. The FDA had additional minor comments suggesting that we should try to reduce the variability among assay readings, that we should use patients full names rather than initials on the vaccine tubes, that we should comment on the use of different formulations for the melanoma and renal cancer Oncophage trials, and finally, that we should use SAS rather than EXCEL as our statistical computer program. This trial is closed to enrollment. We believe this study will not qualify as registrational due to the relatively high failure rate in vaccine manufacturing. The vaccine could not be produced for approximately 30% of patients in this study. We have not had detailed discussions or formally asked the FDA if our overall product approval strategy for Oncophage in melanoma is acceptable. We did not cover these issues during our July 20, 2004 Type A meeting regarding our clinical trial in renal cell carcinoma.

Other Cancers

Oncophage has also been studied in other cancers, including colorectal cancer, non-Hodgkin s lymphoma, pancreatic cancer and gastric cancer. Recent data from some of these trials is summarized below. During the second quarter of 2004, we initiated an additional Oncophage Phase 1/2 trial for lung cancer and plan to begin enrollment in a Phase 1/2 trial for breast cancer in the first quarter of 2005.

Colorectal. Results from a Phase 2 clinical trial in patients with metastatic colorectal cancer were published as a featured article in the August 15, 2003 issue of Clinical Cancer Research. The paper presented data on 29 patients with stage IV colorectal cancer that had spread to the liver who had undergone complete resection, or surgical removal, of their metastasized disease. The paper also showed that in the trial, patients who responded immunologically to the vaccine (52 percent of study subjects) had a statistically significant survival advantage compared with patients who did not respond immunologically. Responders demonstrated a two-year overall survival rate of 100 percent, compared with 50 percent for nonresponders, and a disease-free survival rate of 51 percent, compared with 8 percent among nonresponders. This trial has been closed to enrollment.

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Non-Hodgkin s Lymphoma. Findings from a Phase 2, open-label, single-arm study for newly diagnosed or relapsed low-grade, indolent, or slow-growing, non-Hodgkin s lymphoma were presented by the principal investigator from the trial at the ASCO meeting in June 2003. The study was conducted at M. D. Anderson Cancer Center. Among the 10 patients who received Oncophage in the Phase 2 trial, there were responses reported in six: one partial response, two minor responses and three disease stabilizations. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. These findings were updated at the American Society of Hematology, or ASH, 45th annual meeting in December 2003. The study s lead investigator reported indications of clinical activity in eight out of 14 evaluable patients in the trial, including one partial response, two minor responses and five disease stabilizations. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. Oncophage was reported to be well tolerated and without significant adverse effects in this study. These results were statistically significant. This trial has been closed to enrollment.

Gastric. Data from a Phase 1/2 clinical trial evaluating Oncophage as a treatment for metastatic gastric cancer was presented at the ASCO meeting in 2002. In the trial, 15 patients with gastric cancer (stage II to stage IV) underwent surgery, then Oncophage vaccination. At 32 months post-surgery, three were still disease-free, nine had survived, and the mean disease-free and overall survival rates were seven months and over 16 months, respectively. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. No toxicity was observed to be associated with Oncophage treatment. This trial was conducted with clinical investigators at the Johannes Gutenberg-University Hospital in Mainz, Germany, Technical University of Munich in Germany, and the Russian Oncology Research Center in Moscow, Russia.

Pancreatic. In early 1999, we conducted a pilot Phase 1 clinical trial evaluating Oncophage as a treatment for resectable pancreatic cancer. We conducted the trial with clinical investigators at the Memorial Sloan-Kettering Cancer Center. Initially, five patients were treated. Subsequently, five more patients were treated. Updated data from this pilot study were presented at the 12th annual European Cancer Conference, or ECCO, in September 2003. These data were highlighted in a press release issued by the Federation of European Cancer Societies during the ECCO conference. In this trial, which included 10 evaluable patients, the manufacture of Oncophage was feasible and no toxicity associated with vaccination was observed. Recent follow-up data from patients in this Phase 1 trial of Oncophage indicates a median overall survival of over 26 months, with one patient still alive and disease-free after more than five years and two other patients alive and disease-free 2.7 and 2.6 years after treatment. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. This trial has been closed to enrollment.

Manufacturing

Oncophage is manufactured in a new 162,000 square-foot manufacturing and research and development facility in Lexington, Massachusetts. We are currently leasing approximately 94,000 square-feet of this facility and plan to expand to 132,000 square feet on or before August 2005 with a second planned expansion to 162,000 square feet on or before March 2006. We estimate that the facility s current capacity, for Oncophage and AG-858 combined, is approximately 10,000 patient doses per year, expandable to between 40,000 and 50,000 patient doses per year. On average, it takes eight to ten hours of direct processing time to manufacture a patient batch of Oncophage. We currently have 19 employees in our manufacturing department. Until March 2004, Oncophage had been manufactured in a portion of a 58,725 square foot facility in Woburn, Massachusetts.

After manufacturing, Oncophage is tested and released by our quality systems staff. The quality control organization, consisting of 16 employees, performs a series of release assays designed to ensure that the product meets all applicable specifications. Our quality assurance staff of 9 employees also reviews manufacturing and quality control records prior to batch release in an effort to assure conformance with Good Manufacturing Practices 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 regulations and to provide consistent vaccine output. Our quality control and quality assurance staff is similarly

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trained and evaluated as part of our effort to ensure consistency in the testing and release of the product, materials, equipment and facilities.

AG-858

AG-858 is a personalized therapeutic cancer vaccine based on our heat shock protein technology for the treatment of chronic myelogenous leukemia, or CML, a type of cancer characterized by the proliferation of abnormal white blood cells. AG-858 consists of purified HSPPCs based on a specific heat shock protein called HSP70. Because CML is a cancer of the blood, these HSPPCs are purified from a patient s white blood cells, which are obtained through leukapheresis, a method of blood filtration through a machine whereby white blood cells are removed and other blood cell types are returned to the donor.

Background. The American Cancer Society estimates that there will be about 33,440 new cases of all types of leukemia in 2004 in the United States. Of these, about 4,600 cases will be diagnosed as chronic myelogenous leukemia. The current standard of care for CML is treatment with Gleevec™ (imatinib mesylate, Novartis).

Clinical Trials. In December 2002, interim data was reported from a pilot trial conducted at the University of Connecticut School of Medicine. This pilot trial studied the feasibility of using purified HSP70 and its associated antigens, also known as HSPPC-70, in combination with Gleevec for the treatment of CML. In this exploratory trial, the investigators reported that five out of the five evaluable patients showed a clinical response that could be objectively verified by reproducible criteria such as the measurable reduction of quantity of tumor cells present in the patients blood. Updated data were subsequently presented as an oral presentation at the ASCO meeting in June 2003. The investigators reported that seven of the eight patients evaluated achieved a clinical response. Further data on this HSPPC-70 study were presented at the ASH meeting in December 2003; Of the 17 evaluable patients, 11 experienced a reduction in levels of disease as determined either by cytogenetic or molecular tests which measure, respectively, the number or presence of leukemia causing CML cells in the patient s blood. Because this was a single-arm study without a comparator arm, statistical significance is not calculable for any of these results. HSPPC-70 vaccines were successfully prepared for all patients and were well tolerated in the clinical trial.

In April 2003, we initiated an international, multi-center Phase 2 trial combining AG-858, Antigenics HSP70-based product candidate, with Gleevec. In May 2004, the Company voluntarily placed enrollment of this study on hold to modify the cell collection procedure. The study resumed on July 24, 2004. The trial will evaluate the safety and cytogenetic response (changes in the amount of tumor cells in the patient s blood) of this combination treatment in up to 40 patients with chronic phase CML who are currently receiving Gleevec treatment but are cytogenetically positive. We expect to complete enrollment in this trial by early 2005 and to release the data from this trial approximately 12-15 months after completion of enrollment.

Manufacturing

We also transferred the manufacture of AG-858 to our facility in Lexington, Massachusetts during the first quarter of 2004. The facility s initial capacity, for Oncophage and AG-858 combined, is approximately 10,000 patient doses per year, expandable to between 40,000 and 50,000 patient doses per year. On average, it takes 20 to 25 hours of direct processing time to manufacture a patient batch of AG-858. We are developing a revised manufacturing process for AG-858 to reduce this processing time. All patient doses of HSPPC-70 for the pilot study were manufactured at the University of Connecticut, where the study is being conducted.

The manufacturing process for AG-858 is based on similar principles as those used for Oncophage. After manufacturing, AG-858 is fully tested and released by our quality systems staff. The quality control organization performs a series of release assays designed to ensure that the product meets all applicable specifications. Our quality assurance staff also reviews manufacturing and quality control records prior to batch release in an effort to assure conformance with Good Manufacturing Practices as mandated by the FDA and key foreign regulatory agencies.

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Our AG-858 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 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, materials, equipment and facilities.

AG-702/ AG-707

AG-702/ AG-707 is our therapeutic vaccine program based on our heat shock protein technology for the treatment of genital herpes, a chronic disease caused by herpes simplex virus-2, or HSV-2. AG-702 consists of HSPPCs that we manufacture by complexing, or binding, a heat shock protein to a single peptide of HSV-2 and is referred to as a monovalent vaccine. In theory, this monovalent vaccine would only address approximately 40 percent of the patient population due to variances in patients genetic makeup. AG-707 is a multivalent vaccine (a type of vaccine that addresses multiple targets) containing multiple HSV-2 peptides. The multivalent AG-707 is therefore designed to address HSV-2 infection in a broad population of patients (up to 90 percent of those affected). AG-707 is designed to be a off-the-shelf product because the antigenic profile of HSV-2 is similar in all patients so personalization of the products is not required. The most common side effects of AG-702/ AG-707 have been injection site reactions or transient low-grade fevers. Laboratory experiments to characterize and formulate AG-707 have demonstrated an immune response, improvement in animals treated with product prior to exposure to HSV2 virus and stability in pre-clinical in vitro and in vivo models.

Background. The US 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 antiviral agents that reduce further replication of the virus.

Clinical Trials. We initiated a Phase 1 clinical trial of AG-702 as a proof-of-principle study in the fourth quarter of 2001 at The University of Washington. This is a dose-escalation study in both healthy volunteers and genital herpes patients. We expect to file an Investigational New Drug application (IND) for AG-707, our multivalent product candidate, for the treatment of genital herpes in the first half of 2005 and, assuming allowance of the IND by the FDA, we would expect to begin enrolling patients shortly thereafter.

Manufacturing

The synthetic peptide components used in of AG-702/ AG-707 are manufactured for us by a contract manufacturer. The recombinant HSP70 used in AG-702 was also produced by a contract manufacturer. We plan to continue using a contract manufacturer to produce the recombinant HSP70 for AG-707. The purification of recombinant HSP70 complexing with synthetic peptides, fill and finish operation will be performed in our new Lexington, Massachusetts facility.

Aroplatin

Aroplatin is a novel liposomal formulation of a third-generation platinum chemotherapeutic structurally similar to Oxaliplatin, a recently approved treatment for colorectal cancer. Although, structural similarity does not guarantee similar clinical benefit, laboratory studies comparing Aroplatin to Oxaliplatin showed that Aroplatin suppressed tumor growth, caused a reduction in tumor size, and provided a 50% increase in survival as compared to control animals. This data represents a five-fold improvement to results seen from the Oxaliplatin arm of the study. Laboratory studies also indicate that Aroplatin has considerable anti-tumor activity, which is the ability to kill cancer cells. This anti-tumor activity has been demonstrated in over ten tumor cell lines with results that are at least three fold, or better, than those of cisplatin and/or carboplatin, two other approved platinum chemotherapeutic agents. Platinum chemotherapeutics are cancer drugs containing the metallic element platinum, which has been shown to have some anti-cancer effects. Platinum chemotherapeutics have shown the ability to shrink solid tumors and, often in combination with non-platinum anti-cancer agents, have demonstrated moderate ability to slow the spread of several types of solid tumor

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cancers. Published results which 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 also encapsulated in a liposome, or a round shell of phospholipids, the basic components of human cell membranes. Liposome encapsulation has been shown to increase a drug s bioavailability, or the amount of time and specific distribution within the body, which can extend the treatment s 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. Aroplatin has the safety profile of a chemotherapeutic agent; the most common side effect being suppression of formation of new red or white blood cells and platelets in the bone marrow. Thus, based on its chemical structure which makes it active against platinal resistant tumors and its liposomal formulation, we believe that Aroplatin will have some advantages for the treatment of certain cancers compared with current platinum-based chemotherapeutics such as carboplatin and cisplatin.

Clinical Trials

We initiated a Phase 2 trial for advanced colorectal cancer unresponsive to medical treatment (refractory) in 2002. 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 ECCO. One out of the 15 evaluable patients demonstrated a partial clinical response and two experienced disease stabilization. Because this was a single-arm study without a comparator arm, statistical significance is not calculable. In addition, researchers observed that Aroplatin appears well tolerated in this pretreated patient population. This trial is closed to enrollment.

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 tumors amenable to platinum therapy. This study is closed to enrollment.

We are currently conducting preclinical experiments with Aroplatin to determine how the formulation of Aroplatin could be improved. Subject to the results of these experiments, we may launch a series of further preclinical experiments to support future clinical trials with an improved formulation or we may make the decision to suspend or delay the current development of Aroplatin. We estimate that preclinical testing will conclude during 2004 followed, if successful, by further clinical development.

Manufacturing

Aroplatin has been manufactured for us by contract manufacturers. These contract manufacturers also produce drug products for other pharmaceutical companies at clinical and commercial scale and are regularly inspected and qualified by US and foreign regulatory agencies.

QS-21

Introduction

QS-21 is an adjuvant, or a substance added to vaccines and other immunotherapies that is designed 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 more than 90 clinical trials involving, in aggregate, over 3,100 patients in a variety of cancer indications and infectious diseases. These studies have been carried out by academic institutions predominantly located in the United States and by global pharmaceutical companies at more than 20 international sites. 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 only adjuvants used in approved vaccines in the United States today. None of these QS-21 trials have been pivotal. QS-21 is

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currently being used in one commercial product approved in Europe. This product is a veterinary drug used as a vaccination against feline leukemia virus and is owned and marketed by Virbac SA.

Partnered QS-21 Programs

A number of pharmaceutical and biotech companies have licensed QS-21 for a variety of human diseases. Companies with active and ongoing QS-21 programs are GlaxoSmithKline, P.L.C., Progenics Pharmaceuticals, Inc., Elan Corporation, plc. and Advanced Bioscience Laboratories. In return for rights to use QS-21, these companies have agreed to pay us license fees, milestone payments, and royalties on product sales. We have retained worldwide manufacturing rights and have the right to subcontract manufacturing for QS-21. In addition to these companies, we have developed a number of academic collaborations to test new vaccine concepts and products containing QS-21. Currently, there are no pivotal trials ongoing with QS-21. GlaxoSmithKlein, P.L.C., however, has recently released data on a proof of concept study in malaria that may form the basis for Phase 3 trials utilizing QS-21. Elan Pharmaceuticals, a sponsor that had been investigating a product candidate for Alzheimer s disease, notified us of patients who were reported to show clinical signs consistent with inflammation of the central nervous system. The investigators reported possible causality with the study drug. We do not have details regarding these events. To our knowledge, however, there is no report of a causal connection between QS-21 and development of inflammation of the central nervous system. In one study investigating the product candidate for Alzheimer s disease, no events involving inflammation of the central nervous system have been reported from the study arm in which only QS-21 was administered. Additionally, no events of inflammation of the central nervous system have been reported to us from any other studies of drugs containing adjuvant QS-21.

Manufacturing

We have entered into a supply agreement as of March 2004 for the production of QS-21. To date, we have not purchased any product under this agreement. The manufacturer is capable of producing up to 2 million doses per batch at this facility. We have retained worldwide manufacturing rights and have the right to subcontract manufacturing for QS-21.

Preclinical Programs

Next Generation Oncophage

Our lead preclinical program is focused on a next-generation Oncophage vaccine, which incorporates several important innovations. In this next generation Oncophage, the binding of heat shock proteins to peptides occurs artificially in a test tube rather than naturally, as in our first generation Oncophage. This will allow us to prepare larger quantities of product than the original Oncophage. We expect to be able to manufacture sufficient quantities of a personalized cancer vaccine from much smaller tumor tissue samples. This approach would be designed to treat patients with earlier stages of disease in a broader array of cancers. Clinical trials conducted with first generation Oncophage will not need to be repeated, as the first generation will continue to be used for treatment of cancers in which it is currently being used for in Phase 3 clinical trials.

HSP Combinations

During 2004, we have launched a significant preclinical program to evaluate Oncophage in combination with other compounds such as other biologic and chemotherapeutic products. Some of these combination experiments will be conducted in collaboration with prospective pharmaceutical partners who have expressed an interest in studying certain of their compounds in combination with Oncophage.

Intellectual Property Portfolio

We devote significant resources to protecting and expanding our 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 81 issued United States patents and 87 foreign patents. We also have rights to

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67 pending United States patent applications and 208 pending foreign patent applications. Our issued patents cover our core technologies including (i) HSPs such as Oncophage and AG-858 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 patent applications are related to technology based on HSP receptors, including CD91, one of our preclinical programs. 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 151 issued patents and 197 pending patent applications because a substantial portion of our patent portfolio is directed to alternative and/or non-core technologies.

Table 1

Products or Technologies	Oncophage® & AG-858	AG-707	HSPs in Autoimmune Disorders	HSP Receptors
Number of issued U.S. patents	12	9	1	0
Expiration range	2015 2018	2015 2017	2017	
Number of pending U.S. patent applications	4	3	0	6
Number of issued foreign patents	6	3	2	0
Expiration range	2015 2018	2015 2016	2018	
Number of pending foreign patent applications	11	8	4	9

We also have rights to 24 issued U.S. patents and 22 U.S. patent applications 6 issued foreign patents and 53 foreign patent applications directed to various other HSP technologies. With the exception of one patent application that we own outright, all of our patent applications relating to Oncophage®, AG-858 and AG-707 are licensed exclusively to us.

Table 2

Products or Technologies	QS-21	Aroplatin
Number of issued U.S. patents	5	3
Expiration range	2008 2017	2010 2020
Number of pending U.S. patent applications	3	6
Number of issued foreign patents	35	18
Expiration range	2008 2012	2006 2012
Number of pending foreign patent applications	23	6

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

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 in any country;

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

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

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control access to know-how and trade secrets through confidentiality agreements, which we require almost 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.

With the exception of one patent application that we own outright, all of our heat shock protein patents and patent applications relating 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 heat shock protein technology that resulted from the research and development performed by Dr. Pramod Srivastava, our founding scientist and one of our 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 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. 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, that 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 due diligence provisions. Dr. Srivastava moved his research to the University of Connecticut Health Center 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 $2,374,000.

University of Connecticut

Research Agreement

In February 1998, we entered into a research agreement with the University of Connecticut Health Center, or UConn, and Dr. Srivastava relating to the continued development of heat shock protein technology. The research agreement provides us with an option to license inventions stemming from the research that we sponsor at UConn and provides certain pre-determined royalty rates for licensed inventions. The research agreement had an initial term of five years which was amended during 2002 and again on December 31, 2003 to currently : (1) extend the term of the research agreement to December 31, 2008, and (2) provide for an

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annual payment of $1,350,000 payable quarterly at the rate of $337,500 from 2004 to 2008. UConn may terminate the research agreement upon 60 days written notice if it is unable to fulfill the terms of the research agreement. We can terminate the research agreement by giving 30 days written notice in the event that Dr. Srivastava terminates his employment by UConn or is otherwise unable to continue his research at UConn.

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 the research agreement. The term of the license agreement ends when the last of the licensed patents expires (2018) or becomes no longer valid. UConn may terminate the agreement: (1) if, after 30 days written notice, we 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 September 30, 2004, we have paid approximately $55,000 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 due diligence requirements, UConn may be able to terminate the license agreement.

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 provides that any time we elect to exercise our option to license inventions discovered or developed as a result of research we sponsor at UConn, such inventions will be automatically covered under the terms of our existing license agreement with UConn. In consideration for execution of the amendment agreement and for the license of additional patent rights, 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 exercise our option under the research agreement. As of September 30, 2004, we have paid approximately $52,000 to UConn under the amendment agreement.

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

Sumitomo Pharmaceuticals Co., Ltd.

In December 2000, Aronex Pharmaceuticals, a company we acquired in July 2001, entered into a license agreement with Sumitomo Pharmaceuticals Co., Ltd. The license agreement grants us the exclusive right to an issued U.S. patent application that contains certain claims to the active ingredient in 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. As the Sumitomo patent has not issued yet, the term of the license agreement would end 17 years after the date that the Sumitomo patent is issued. 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 defaults in its performance under the license agreement. Prior to our acquisition of Aronex Pharmaceuticals, Sumitomo received a $500,000 up-front payment in 2001 from Aronex Pharmaceuticals and will receive subsequent milestone payments from us in the aggregate of up to $3.5 million if regulatory filings, regulatory

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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 due diligence provisions.

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

In June 1988, a predecessor to Aronex Pharmaceuticals 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 patents containing claims that relate to Aroplatin. The term of the exclusive license agreement expires when the last licensed patent expires (2010). 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 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, we have not made any payments to the University of Texas under the license agreement.

Regulatory Considerations

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. 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.

The first stage of the FDA approval process for 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 investigational new drug application, or 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 Good Laboratory Practices regulations. If the sponsor violates these regulations, in some cases, 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 however are often conducted with patients that are not healthy 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, or protocol, accompanied by the approval of the institution

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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.

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 or AG-858, a biologics license application. In a process which 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, the potential contribution that the compound will make in improving the treatment of the disease in question, and the workload at the FDA.

Congress enacted the Food and Drug Administration Modernization Act of 1997 in part to ensure the availability of safe and effective drugs, biologics, and medical devices by expediting the FDA review process for new products. The Modernization Act establishes a statutory program for the approval of Fast Track products, including biologics. A Fast Track product is defined as a new drug or biologic intended for the treatment of a serious or life-threatening condition that demonstrates the potential to address unmet medical needs for this condition. Under the Fast Track program, the sponsor of a new drug or biologic may request the FDA to designate the drug or biologic as a Fast Track product at any time during the clinical development of the product. This designation assures access to FDA personnel for consultation throughout the development process and provides an opportunity to request accelerated review of a marketing application providing a six month review timeline for the designated product. Our most advanced product, Oncophage, has been designated by the FDA as a Fast Track product in renal cell carcinoma and metastatic melanoma. We cannot predict whether these designations will impact the timing or likelihood of FDA approval of Oncophage.

The Modernization Act specifies that the FDA must determine if the product qualifies for Fast Track designation within 60 days of receipt of the sponsor s request. The FDA can base approval of a marketing application for a Fast Track product on an effect on a clinical endpoint or on another endpoint that is reasonably likely to predict clinical benefit. The FDA may subject approval of an application for a Fast Track product to:

post-approval studies to validate the surrogate endpoint or confirm the effect on the clinical endpoint; and

prior review of all promotional materials.

In addition, the FDA may withdraw its approval of a Fast Track product on a number of grounds, including the sponsor s failure to conduct any required post-approval study with due diligence.

If a preliminary review of the clinical data suggests that a Fast Track product may be effective, the FDA may initiate review of sections of a marketing application for a Fast Track product before the sponsor completes the application. This rolling review is available if the applicant provides a schedule for submission of remaining information and pays applicable user fees. However, the time periods specified under the Prescription Drug User Fee Act concerning timing goals to which the FDA has committed in reviewing an application, do not begin until the sponsor submits the complete application.

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 melanoma.

The FDA may, during its review of a new drug application or biologics license application, 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

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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 biologics license application, the FDA will inspect the facilities at which the product is manufactured and will not approve the product unless the manufacturing facilities are in compliance with current Good Manufacturing Practices. 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.

Following approval, the manufacture, holding, and distribution of a product must be in compliance with current Good Manufacturing Practices. Manufacturers must expend time, money, and effort in the area of production and quality control and record keeping and reporting to ensure full compliance with those requirements. 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.

We are also subject to regulation by the Occupational Safety and Health Administration, or OSHA, and the Environmental Protection Agency, or EPA, and to regulation under the Toxic Substances Control Act, the Resource Conservation and Recovery Act and other regulatory statutes, and may in the future be subject to other federal, state or local regulations. Either or both OSHA and/or the EPA may promulgate regulations that may affect our research and development programs.

Sales of pharmaceutical products outside the United States are subject to foreign regulatory requirements that vary widely from country to country. Whether or not we have obtained FDA approval, we must obtain approval of a product by comparable regulatory authorities of foreign countries prior to the commencement of marketing the product in those countries. The time required to obtain this approval may be longer or shorter than that required for FDA approval.

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, infectious diseases, and autoimmune disorders. In addition, many competitors focus on immunotherapy as a treatment for cancer, infectious diseases, and autoimmune disorders. 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. We compete for funding, access to licenses, personnel, and third-party collaborations. In addition, 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. A competing company developing, or acquiring rights to, a more efficacious therapeutic product for the same diseases we are targeting, or one which offers 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 others that may compete with our programs and products. Several companies, including Biomira Inc., CancerVax Corporation, Cell Genesys Inc., Corixa Corporation, Dendreon Corporation, Genzyme Corporation and Intracel Corporation, are developing treatments for cancer based on modulation of the immune system, including cancer vaccines. In

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addition, several companies, including Pfizer Inc, Bristol Myers-Squibb, Genentech, Roche, Merck, Schering-Plough, AstraZeneca, and Wyeth, have expertise in, and are developing products for the treatment of cancer, infectious diseases, and autoimmune disorders. We are aware of one competitor, Dendreon Corporation, who received fast track designation for Provenge, an autologous cancer vaccine for the treatment of prostate cancer.

Certain companies to which we have licensed QS-21 have also licensed vaccine adjuvants form direct competitors, such as Coley Pharmaceutical Group, Corixa Corporation and Avant Immunotherapeutics. 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 September 30, 2004, we had 227 employees, of whom 27 have PhDs and 4 have MDs. None of our employees are subject to a collective bargaining agreement. We believe that we have good relations with our employees.

USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares of Antigenics common stock offered by this prospectus. This prospectus relates to resales by the selling securityholders listed below or in a supplement to this prospectus of 350,000 shares of Antigenics common stock that we issued in a private placement on July 30, 2004 in connection with our acquisition of assets from Mojave Therapeutics.

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SELLING SECURITY HOLDERS

This prospectus relates to resales by the selling securityholders listed below of 350,000 shares of Antigenics common stock that we issued in a private placement on July 30, 2004 in connection with our acquisition of assets from Mojave Therapeutics, Inc.

The table below sets forth information about the beneficial ownership of shares of Antigenics common stock by each selling securityholder who has timely provided us with a completed and executed notice and questionnaire stating its intent to use this prospectus to sell or otherwise dispose of shares of Antigenics common stock. Our registration of the shares of Antigenics common stock that were issued in connection with the acquisition of assets from Mojave Therapeutics does not mean that the selling securityholders identified below will sell all or any of these shares.

We have prepared this table using information furnished to us by the selling securityholders. Except as otherwise indicated below, to our knowledge, no selling securityholder nor any of its affiliates has held any position or office with, been employed by or otherwise has had any material relationship with us or our affiliates during the three years prior to the date of this prospectus.

Name(1)	Number of Shares of Antigenics Common Stock Offered Pursuant to this Prospectus	Number of Shares of Antigenics Common Stock Beneficially Owned After the Offering(2)
Mojave Therapeutics, Inc.	198,875	0
Life Science Group	28,209	0
Johnson & Johnson Development Corporation	9,219	0
Patricia M. Cloherty	1,615	0
Frank Landsberger	77	0
John Starynski and Marilyn Pontone	154	0
Gobi Partners II LLC	860	0
Sloan-Kettering Institute for Cancer Research	61,458	0
Apax Europe IV-A, L.P.	28,887	0
Apax Europe IV-B, L.P.	6,080	0
Apax Europe IV-C GmbH & Co. K.G.	2,782	0
Apax Europe IV-D, L.P.	2,185	0
Apax Europe IV-E, L.P.	47	0
Apax Europe IV-F, C.V.	2,039	0
Apax Europe IV-G, C.V.	1,199	0
Apax Europe IV-H GmbH & Co., K.G.	29	0
APA Excelsior IV, L.P.	5,206	0
APA Excelsior IV/ Offshore, L.P.	919	0
Patricof Private Investment Club, L.P.	100	0
Eugene Levy	61	0

(1) Individuals and entities who receive shares of Antigenics common stock covered by this prospectus from a selling securityholder as a gift or in connection with a pledge may sell up to 500 of those shares using this prospectus.

(2) Assumes that the selling securityholder has sold all the shares of common stock listed next to its name and represents additional shares of Antigenics common stock beneficially owned before the offering.

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PLAN OF DISTRIBUTION

We are registering the shares of common stock issued in connection with our acquisition of assets from Mojave Therapeutics for resale by the selling securityholders listed in this prospectus. The aggregate proceeds to the selling securityholders from the sale of the common stock will be the purchase price of the shares less discounts and commissions, if any. Each of the selling securityholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of shares. We will not receive any of the proceeds from the offering of the shares of common stock by the selling securityholders.

The selling securityholders, or their pledgees, donees or transferees of, or other successors in interest to, the selling securityholders, may sell all or a portion of the shares of common stock from time to time to purchasers directly or through broker-dealers or agents, who may receive compensation in the form of discounts, concessions or commissions from the selling securityholders or the purchasers. The selling securityholders will act independently of us in making decisions with respect to the timing, manner and size of each sale.

The selling securityholders and any such broker-dealers or agents who participate in the distribution of shares of common stock may be deemed to be underwriters (as this term is defined in the Securities Act). As a result, any discounts, commissions, concessions or profits they earn on the resale of the shares may be underwriting discounts and commissions under the Securities Act. If the selling securityholders were deemed to be underwriters, the selling securityholders may be subject to statutory liabilities as underwriters under the Securities Act. Selling holders who are underwriters within the meaning of the Securities Act are subject to the prospectus delivery requirements of the Securities Act. The selling securityholders have acknowledged their obligations to comply with the provisions of the Exchange Act and the rules thereunder relating to stock manipulation, particularly Regulation M.

The shares of our common stock may be sold in one or more transactions at fixed prices, prevailing market prices at the time of sale, prices related to the prevailing market prices, varying prices determined at the time of sale, or negotiated prices. These sales may be effected in transactions:

on any national securities exchange or U.S. inter-dealer system of a registered national securities association on which the shares may be listed or quoted at the time of sale, which may include The Nasdaq National Market;

in the over-the-counter market;

in transactions otherwise than on such exchanges or services or in the over-the-counter market;

through the writing of options, whether the options are listed on an exchange or otherwise; or

through the settlement of short sales.

These transactions may include block transactions or crosses. Crosses are transactions in which the same broker acts as an agent on both sides of the trade.

In connection with sales of the shares or otherwise, the selling securityholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of shares of our common stock in the course of hedging their positions. The selling securityholders may also sell shares of our common stock short and deliver the shares covered by this prospectus to close out short positions, or loan or pledge shares of our common stock to broker-dealers that in turn may sell the shares.

To our knowledge, there are currently no plans, arrangements or understandings between any selling securityholders and any broker-dealer or agent regarding the sale of the shares by the selling securityholders. Selling securityholders may not sell any, or may not sell all, of the shares of our common stock covered by this prospectus. We cannot assure you that any such selling securityholder will not transfer, devise or gift the shares by other means not described in this prospectus.

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A selling securityholder may decide not to sell any of the shares covered by this prospectus. In addition, any shares covered by this prospectus that qualify for sale pursuant to Rule 144 of the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus.

The selling securityholders and any other person participating in a distribution will be subject to the Exchange Act. The Exchange Act rules include, without limitation, Regulation M, which may limit the timing of purchases and sales of shares of our common stock by the selling securityholders and any such other person. In addition, Regulation M of the Exchange Act may restrict sales activity by a person engaged in the distribution of the shares for a period of up to five business days prior to the commencement of such distribution. This may affect the marketability of the shares of our common stock and the ability of any person or entity to engage in market-making activities with respect to shares of our common stock.

Our outstanding common stock is quoted on the Nasdaq National Market under the symbol AGEN .

Under the agreement contemplated the purchase of assets from Mojave Therapeutics, we agreed to register these shares of our common stock under the Securities Act laws under specific circumstances and at specific times. The agreement and ancillary agreements provide for cross-indemnification of the selling securityholders and us and their and our respective directors, officers and controlling persons against specific liabilities in connection with the offer and sale of the shares, including some liabilities under the Securities Act. We have agreed to pay substantially all of the expenses incidental to the registration, offering and sale of the shares to the public other than commissions, fees and discounts of underwriters, broker-dealers and agents. Our obligation to keep the registration statement of which this prospectus is a part effective is subject to exceptions. In certain cases, we may prohibit offers and sales of the shares pursuant to such registration statement.

VALIDITY OF SECURITIES

Our counsel, Ropes & Gray LLP, Boston, Massachusetts, has passed on the validity of the shares offered by this prospectus.

EXPERTS

The consolidated financial statements of Antigenics Inc. and subsidiaries as of December 31, 2003 and 2002, and for each of the years in the three-year period ended December 31, 2003, have been incorporated by reference herein and in the registration statement in reliance upon the report of KPMG LLP, independent accountants, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing. The audit report covering the December 31, 2003 consolidated financial statements refers to a change in accounting for purchase method business combinations completed after June 30, 2001, a change in accounting for goodwill and intangible assets effective January 1, 2002 and a change in accounting for asset retirement obligations effective January 1, 2003.

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INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference information from other documents that we file with them, which means that we can disclose important information by referring to those documents. The information incorporated by reference is considered to be part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 prior to the sale of all the securities covered by this prospectus:

our Annual Report on Form 10-K for the fiscal year ended December 31, 2003 filed with the SEC on March 15, 2004 (File No. 000-29089);

our Quarterly Reports for the fiscal quarter ended March 31, 2004 filed with the SEC on May 7, 2004 (File No. 000-29089), for the fiscal quarter ended June 30, 2004 filed with the SEC on August 9, 2004 (File No. 000-29089) and for the fiscal quarter ended September 30, 2004 filed with the SEC on November 9, 2004 (File No. 000-29089);

our Current Reports on Form 8-K filed with the SEC on February 4, 2004 (File No. 000-29089), February 18, 2004 (File No. 000-29089), April 1, 2004 (File No. 000-29089), May 27, 2004 (File No. 000-29089), September 10, 2004 (File No. 00329089) and December 15, 2004 (File No. 000-29089);

the description of our common stock contained in our Registration Statement on Form 8-A, filed on January 24, 2000 (File No. 000-29089), including any amendment or reports filed for the purpose of updating such description.

We will provide to you, without charge, upon your written or oral request, a copy of any or all of the documents that we incorporate by reference, including exhibits. Please direct requests to: Investor Relations at Antigenics Inc., 630 Fifth Avenue, New York, New York 10111, where the phone number is (212) 994-8200.

WHERE YOU CAN FIND MORE INFORMATION

You should rely only on the information contained in this prospectus. We have not authorized any person to provide you different information. You should not assume that the information in this prospectus is accurate as of any date other than the date on the cover.

We file annual, quarterly, and special reports and proxy statements and other information with the SEC. You may read and copy any document that we file at the SEC s Public Reference Room at 450 Fifth Street, N.W. Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room. Our SEC filings are also available on the SEC s web site at http://www.sec.gov.

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. ***Other Expenses of Issuance and Distribution***

The expenses in connection with the securities being registered are as follows:

	Amount to be Paid
Registration fee	299
Printing Expenses	10,000
Legal fees and expenses	50,000
Accounting fees and expenses	15,000
Miscellaneous	201
Total	$75,500

All of the above figures, except the SEC registration fee, are estimated, and we will pay all of the above expenses.

Item 15. ***Indemnification of Directors and Officers***

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, other than an action by or in the right of the corporation, by reason of the fact that the person is or was a director, officer, employee or agent of the corporation or is or was serving at the corporation s request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses, including attorneys fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with the action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person s conduct was unlawful. The power to indemnify applies to actions brought by or in the right of the corporation as well, but only to the extent of expenses, including attorneys fees but excluding judgments, fines and amounts paid in settlement, actually and reasonably incurred by the person in connection with the defense or settlement of the action or suit. And with the further limitation that in these actions no indemnification shall be made in the event of any adjudication of negligence or misconduct in the performance of his duties to the corporation, unless a court believes that in light of all the circumstances indemnification should apply.

Article V of Antigenics By-laws provides that Antigenics shall, to the extent legally permitted, indemnify each person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding by reason of the fact that he is or was, or has agreed to become, a director or officer of Antigenics, or is or was serving, or has agreed to serve, at the request of Antigenics, as a director, officer or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprises. The indemnification provided for in Article V is expressly not exclusive of any other rights to which those seeking indemnification may be entitled under any law, agreement or vote of stockholders or disinterested directors or otherwise, and shall inure to the benefit of the heirs, executors and administrators of such persons.

Section 145(g) of the Delaware General Corporation Law and Article V of By-laws of Antigenics provide that the company shall have the power to purchase and maintain insurance on behalf of its officers, directors, employees and agents, against any liability asserted against and incurred by such persons in any such capacity.

Antigenics has entered into indemnification agreements with each of its directors and executive officers and has obtained insurance covering its directors and officers against losses and insuring Antigenics against certain of its obligations to indemnify its directors and officers.

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Section 102(b)(7) of the Delaware General Corporation Law provides that a corporation may eliminate or limit the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provisions shall not eliminate or limit the liability of a director (i) for any breach of the director s duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law, or (iv) for any transaction from which the director derived an improper personal benefit. No such provision shall eliminate or limit the liability of a director for any act or omission occurring prior to the date when such provision becomes effective.

Section 6 of Article FIFTH of the Certificate of Incorporation of Antigenics eliminates a director s personal liability for monetary damages to Antigenics and its stockholders to the fullest extent permitted under the Delaware General Corporation Law.

Item 16. ***Exhibits***

Exhibit Number	Description of Document
4.1	Amended and Restated Certificate of Incorporation of Antigenics Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K dated June 10, 2002 (File No. 000-29089) and incorporated herein by reference.
4.2	Amended and Restated By-laws of Antigenics Inc. Filed as Exhibit 3.2 to our Current Report on Form 8-K dated June 10, 2002 (File No. 000-29089) and incorporated herein by reference.
4.3	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) dated September 25, 2003 and incorporated herein by reference.
4.4	Form of Warrant to purchase Common Stock, together with a list of holders. Filed as Exhibit 4.2 to our Registration Statement on Form S-1 (File No. 333-91747) and incorporated herein by reference.
4.5	Form of Debenture. Filed as Exhibit 4.1 to the Current Report on Form 8-K of Aquila Biopharmaceuticals, Inc. (File No. 0-12081) and incorporated herein by reference.
4.6	Form of Common Stock Purchase Warrant. Filed as Exhibit 4.3 to Current Report on Form 8-K dated April 17, 2000 (File No. 0-20111) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
4.7	Form of Common Stock Purchase Warrant. Filed as Exhibit 4.2 to Current Report on Form 8-K dated April 17, 2000 (File No. 0-20111) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
4.8	Registration Rights Agreement dated August 2, 1989 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.
4.9	First Amendment to Registration Rights Agreement dated April 18, 1990, by and among Aronex Pharmaceuticals, Inc. and certain of its stockholders. Filed as Exhibit 10.3 to the Registration Statement on Form S-1 (File No. 333-47418) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
4.10	Second Amendment to Registration Rights Agreement dated October 31, 1991, by and among Aronex Pharmaceuticals, Inc. and certain of its stockholders. Filed as Exhibit 10.4 to the Registration Statement on Form S-1 (File No. 333-47418) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
4.11	Third Amendment to Registration Rights Agreement, dated September 10, 1993, among Aronex Pharmaceuticals, Inc. and certain of its stockholders. Filed as Exhibit 10.24 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 Number	Description of Document
4.12	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.
4.13	Form of Warrant to Purchase of Common Stock issued to Paramount Capital Inc. Filed as Exhibit 1.2 to the Registration Statement on Form S-1 (File No. 333-67599) of Aronex Pharmaceuticals, Inc. and incorporated herein by reference.
4.15	Right of First Refusal Agreement dated as of May 21, 2004, between Antigenics Inc. and Brad M. Kelley, filed as Exhibit 4.1 to our Current Report on Form 8-K (file No. 0-29089), dated May 27, 2004 and incorporated herein by reference.
5.1	Opinion of Ropes & Gray LLP. Included with original filing of this Registration Statement. Filed as Exhibit 5.1 to Form S-3 dated August 12, 2004 (File No. 333-118171) and incorporated herein by reference.
23.1	Consent of KPMG LLP.
23.2	Consent of Ropes & Gray. Included in the opinion filed as Exhibit 5.1.
24.1	Power of Attorney. Included with original filing of this Registration Statement. Filed as Exhibit 24.1 to Form S-3 dated August 12, 2004 (File No. 333-118171) and incorporated herein by reference.

Item 17. ***Undertakings***

(a) The undersigned hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3, Form S-8 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant s annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers or controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of New York, State of New York, as of December 22, 2004.

ANTIGENICS INC.

By: /s/ GARO H. ARMEN, PH.D.

Garo H. Armen
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities indicated and as of December 22, 2004.

Signature	Title
/s/ GARO ARMEN, PH.D. Garo Armen, Ph.D.	Chief Executive Officer and Chairman of the Board of Directors (Principal Executive, Financial, and Accounting Officer)
/s/ PETER THORNTON Peter Thornton	Chief Financial Officer (Principal Financial and Accounting Officer)
* Noubar Afeyan, Ph.D.	Director
* Frank AtLee	Director
* Gamil de Chadarevian	Vice Chairman of the Board of Directors
* Tom Dechaene	Director
* Margaret Eisen	Director
* Wadih Jordan	Director
* Mark Kessel	Director

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Signature	Title
*	Director
Pramod Srivastava, Ph.D.	
*By: /s/ GARO ARMEN, PH.D.	
Garo Armen, Ph.D. *Attorney-in-Fact*	