FORM 424B3

Prospectus filed pursuant to Rule 424(b)(3)

Filing Date: **2006-05-08**
SEC Accession No. 0000950133-06-002315

FILER

GENVEC INC

CIK:**934473**| IRS No.: **232705690** | State of Incorp.:**DE** | Fiscal Year End: **1231**
Type: **424B3** | Act: **33** | File No.: **333-133366** | Film No.: **06815609**
SIC: **2834** Pharmaceutical preparations

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Filed pursuant to Rule 424(b)(3)
Registration Number 333-133366

GenVec, Inc.

Up to 13,255,050 Shares of Our
Common Stock

This prospectus relates to the resale of up to 13,255,050 shares of our common stock that we may issue to the selling stockholder listed in the section entitled "Selling Stockholder." The shares of common stock offered under this prospectus by the selling stockholder are issuable to Kingsbridge Capital Limited ("Kingsbridge"), pursuant to a common stock purchase agreement between Kingsbridge and ourselves dated March 15, 2006 and a warrant we issued to Kingsbridge on that date. We are not selling any securities under this prospectus and will not receive any of the proceeds from the sale of shares by the selling stockholder.

The selling stockholder may sell the shares of common stock described in this prospectus in a number of different ways and at varying prices. We provide more information about how the selling stockholder may sell its shares of common stock in the section titled "Plan of Distribution" on page 27. We will not be paying any underwriting discounts or commissions in this offering.

Our common stock is quoted on the Nasdaq National Market and traded under the symbol "GNVC." The last reported sale price for our common stock on April 13, 2006 was $2.07 per share.

Our principal executive offices are located at 65 West Watkins Mill Road, Gaithersburg, Maryland 20878 and our telephone number is (240) 632-0740.

We will describe in the prospectus supplement any material risk factors that you should consider before purchasing our securities. Please see "Risk Factors" on page 7 for more information.

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

The date of this prospectus is May 5, 2006.

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You should rely only on the information provided in this prospectus and in any prospectus supplement, including the information incorporated by reference. We have not authorized anyone to provide you with different information. You should not assume that the information in this prospectus or any supplement to this prospectus is accurate at any date other than the date indicated on the cover page of these documents.

Forward-Looking Statements

This prospectus contains and incorporates by reference certain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements also may be included in other statements that we make. All statements that are not descriptions of historical facts are forward-looking statements, based on management' s estimates, assumptions and projections that are subject to risks and uncertainties. These statements can generally be identified by the use of forward-looking terminology such as "believes," "expects," "intends," "may," "will," "should," or "anticipates" or similar terminology. Although we believe that the expectations reflected in our forward-looking statements are reasonable as of the date made, actual results could differ materially from those currently anticipated due to a number of factors, including risks relating to the early stage of our product candidates under development; our ability to secure and maintain relationships with collaborators; uncertainties with, and unexpected results and related analyses relating to clinical trials of our product candidates, including the length of time required to enroll suitable patient subjects and our ability to secure clinical trial sites; the amount of revenues attributable to our vaccine program; the timing and content of future U.S. Food and Drug Administration regulatory actions with respect to us, our product candidates, or our collaborators; dependence on the efforts of third parties; competition from other pharmaceutical or biotechnology companies; the scope and validity of patent protection for our products and our ability to commercialize our products without infringing the patent rights of others; risks that we may lack the financial resources and access to capital to fund its operations, including our ability to fully utilize the Committed Equity Financing Facility ("CEFF") with Kingsbridge as a source of future funding, whether due to the maximum number of 12,735,050 shares issuable under the CEFF consistent with Nasdaq National Market listing requirements, our ability to satisfy various conditions to draw downs under the CEFF, the investor' s performance of its obligations under the CEFF or otherwise; and risks relating to the commercialization, if any, of our proposed product candidates (such as marketing, manufacturing, regulatory, patent, product liability, supply and other risks). Further information on the factors and risks that could affect our business, financial conditions and results of operations, are contained in our filings with the U.S. Securities and Exchange Commission (SEC), which are available at www.sec.gov. These forward-looking statements speak only as of the date of this prospectus, and we assume no duty to update forward-looking statements.

GenVec, Inc.

GenVec is a biopharmaceutical company focused on the development and commercialization of TNFerade™ for the treatment of cancer. We are conducting a Phase II/III trial for the use of TNFerade to treat locally advanced, unresectable pancreatic cancer. TNFerade is also in Phase II trials for rectal cancer and metastatic melanoma. The core technology used for TNFerade has broad application. It is currently being used in five funded collaborations, three for the development of preventative vaccines against infectious diseases, one for the treatment of severe coronary artery disease, and one for a second-generation oncology product.

TNFerade is a novel approach to treating cancer in combination with standard radiation and/or chemotherapy. It delivers the tumor necrosis factor-alpha ("TNF-alpha") gene directly into tumors to stimulate the production of TNF-alpha, a potent anti-cancer protein.

- **Pancreatic Cancer** is currently the lead indication for TNFerade. Based on data from our Phase I and Phase II studies in locally advanced, unresectable pancreatic cancer, we are enrolling patients for a 330-patient randomized, controlled Phase II/III trial designed to assess safety and efficacy potential. For this trial, the primary endpoint is overall survival at 12 months. According to the American Cancer Society, approximately 32,000 new cases of pancreatic cancer will be diagnosed this year in the United States, and nearly all of these patients will die of their disease.

- **Rectal Cancer** − TNFerade is being evaluated in a Phase II trial in rectal cancer to assess its ability to improve tumor responses in conjunction with standard chemoradiation. One objective of this study is to achieve better surgical outcomes in these patients, such as avoidance of colostomy. Approximately 40,000 new cases of rectal cancer will be diagnosed in the United States this year.

- **Metastatic Melanoma** − Based on our Phase I study, we have moved TNFerade into a proof-of-concept Phase II study in metastatic melanoma. In this study, patients will receive TNFerade in combination with radiation therapy. Approximately 60,000 new cases of melanoma will be diagnosed in the United States this year.

The key advantage of our core adenovector technology is that it can efficiently produce therapeutic proteins at the site of disease. In therapeutic applications, the adenovector carries a gene to the target tissue, where production of the therapeutic protein is stimulated. The adenovector is then eliminated by the body. This approach allows the therapeutic protein to be produced where it is needed and limits the unwanted exposure to normal tissues. This same technology can also be used to produce vaccines, where the adenovectors can be used to stimulate an immune response against infectious disease proteins.

Therapeutic Pipeline, in Addition to TNFerade

BIOBYPASS® promotes production of vascular endothelial growth factor (VEGF) protein to stimulate the growth of new blood vessels in areas of the heart lacking sufficient blood flow. We are collaborating with the Cordis Corporation, a Johnson & Johnson company, to evaluate the effects of BIOBYPASS on exercise tolerance and heart function in a randomized, placebo-controlled Phase II trial in 129 patients with advanced heart disease. This study is being conducted at multiple sites in Europe and Israel.

AdPEDF is being developed for patients with wet age-related macular degeneration (AMD), the leading cause of blindness in people over the age of 50. We have completed a dose-escalation Phase I clinical trial of AdPEDF in patients with severe AMD. Data from this trial demonstrated that AdPEDF was generally well tolerated and showed evidence of a halt in disease progression for six to twelve months after a single intravitreal injection of AdPEDF. In February 2005, we expanded the Phase I clinical testing of AdPEDF in AMD patients with less severe disease and on March 7, 2006, we announced the completion of enrollment of this 20-patient trial.

Vaccines Program

In addition to our internal product development progress, we are working with multiple collaborators and customers to develop new applications for our technology, such as preventative vaccines to treat HIV, malaria and other infectious diseases.

- **Global HIV Vaccine** − In collaboration with the Vaccine Research Center (VRC) of the National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health, we are providing adenovector-based vaccine candidates targeted against the major strains of HIV present in the world. The NIAID is now conducting multiple clinical trials involving this vaccine candidate, including an international 480-patient Phase II study. This $50 million multi-year collaboration is being conducted under a subcontract issued and managed by SAIC-Frederick, Inc. GenVec is currently manufacturing late-stage clinical supplies for a proof-of-concept efficacy trial (greater than 10,000 individuals) to be conducted and funded by NIAID and expected to commence in 2007.
- **Malaria** − In collaboration with the Naval Medical Research Center (NMRC) and the Malaria Vaccine Initiative, We are generating vaccine candidates for the prevention of malaria. There are currently 300 million to 500 million cases of malaria in the world each year resulting in 1.5 to 3 million deaths, mostly among children. GenVec has produced clinical supplies of a vaccine candidate for Phase I testing of this vaccine candidate, to be conducted and funded by the NMRC.
- **Foot and Mouth Disease** − In a collaboration with the Agricultural Research Service of the United States Department of Agriculture funded by an interagency agreement with the Department of Homeland Security, We are developing vaccine and anti-viral candidates for the prevention and containment of foot and mouth disease outbreaks in the United States. Initial testing showed that cattle challenged with foot and mouth disease did not develop symptoms.
- **Seasonal and pandemic influenza** − We recently expanded our collaboration with the VRC to supply potential vaccine candidates for seasonal and pandemic flu.

Ongoing Clinical Studies

PRODUCT CANDIDATE	DISEASE INDICATION	DEVELOPMENT STAGE	# OF TARGETED PATIENTS
TNFerade	Pancreatic Cancer	Phase II/III − Randomized, Controlled	330
	Melanoma	Phase II − Proof of Concept	29
	Rectal Cancer	Phase II − Dose Escalation	10
BIOBYPASS	Coronary Artery Disease	Phase II − Randomized, Placebo-Controlled	129
AdPEDF	Wet Age-Related Macular Degeneration (AMD)	Phase I − Dose Comparison, wet AMD (patient enrollment complete, follow-up ongoing)	20

Risk Factors

Risks Related to Our Business

We have a history of losses and anticipate future losses.

We have incurred net losses in each year since our inception in December 1992, including a net loss of $14 million for the year ended December 31, 2005. As of December 31, 2005, we had an accumulated deficit of approximately $150 million. We are unsure if or when we will become profitable. The size of our net losses will depend, in part, on the growth rate of our revenues and the level of our expenses.

We derive substantially all of our revenues from payments from collaborations with corporations and government entities, and will continue to do so for the foreseeable future. We expect that it will be several years, if ever, before we will recognize revenue from product candidate sales or royalties. A large portion of our expenses is fixed, including expenses related to facilities, equipment and personnel. In addition, we expect to spend significant amounts to fund research and development and to enhance our core technologies. We also expect to incur substantial costs to manufacture our product candidates. As a result, we expect that our operating expenses will increase significantly over the next several years and, consequently, we will need to generate significant additional revenue to achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a consistent basis.

We will have no product revenues in the near term and may need to raise additional capital to operate our business.

We are focused on clinical product development. Until, and unless, we receive approval from the FDA and other regulatory authorities for our product candidates, we cannot sell these products and will not have product revenues. We will require substantial funds to conduct research and development activities, preclinical studies, clinical trials and other activities prior to the commercialization of any potential products. We anticipate that such funds will be obtained from external sources and intend to seek additional equity, debt or lease financing or collaborative agreements with corporate, governmental and/or academic collaborators to fund future operations. Our actual capital requirements will depend on many factors. If we experience unanticipated cash requirements, we may need to seek additional sources of funding, which may not be available on favorable terms, if at all. Such additional funding may only be available on terms that may cause dilution to common stockholders, have liquidation preferences and/or pre-emptive rights. In the past, we have secured funding on terms that included pre-emptive rights. For example, pursuant to an Investor Rights Agreement between GenVec and HealthCare Ventures V, L.P. dated December 21, 2001, HealthCare Ventures V and VI have the right to purchase shares of GenVec common stock that we may propose to sell in the future to prevent dilution of their interest in the company. If we do not succeed in raising additional funds on acceptable terms, we may be unable to complete planned preclinical studies and clinical trials or obtain approval of our product candidates from the FDA and other regulatory authorities. In addition, we could be forced to discontinue product development, reduce or forego sales and marketing efforts and attractive business opportunities or discontinue operations.

Our ability to develop, obtain regulatory approval of and commercialize our potential products depends, in part, on collaborations with other companies. If we are unable to find collaborators, we may not be able to develop, test and commercialize our products.

To date, we have only entered into collaborative agreements with a limited number of companies, and some of those are no longer in effect. The success of our business strategy depends, in part, on our ability to enter into and sustain collaborations with other companies for the development and commercialization of our product candidates. Unless we are able to enter into and sustain collaboration agreements, we will need to raise additional funds for the development, testing, and commercialization of our product candidates. If collaborations or other funding is not available, we may have to delay or curtail the development and commercialization of certain product candidates.

We have experienced, and may continue to experience, delays in conducting our clinical trials.

Clinical trials for the product candidates we are developing may be delayed by many factors, including that potential appropriate patients for studies are limited in number and may be difficult to recruit. Following the release of our TNFerade clinical trails from clinical hold in 2005, we experienced delays in enrolling patients into our TNFerade clinical trials and may have additional delays as we seek to expand enrollment. Our ability to enroll appropriate patients for any of our clinical trials also may be adversely affected by trials being conducted by our competitors for similar disease indications. The failure of any clinical trials to meet applicable regulatory standards or the standards of the relevant reviewing bodies could cause such trials to be delayed or terminated, which could further delay the development of any of our product candidates. Any such delays increase our product development costs, with the possibility that we could run out of funding. Delays in one clinical trial also can adversely affect our ability to launch clinical trials for similar or different indications. Consequently, if such delays are significant they could negatively affect our financial results and the commercial prospects for our products.

We cannot be sure that our collaborators will perform as expected, and collaborations might produce conflicts that could delay or prevent the development or commercialization of our potential product candidates and negatively impact our business and financial condition.

We cannot control the resources that any collaborator may devote to our products. Our present or future collaborators may not perform their obligations as expected. These collaborators may breach or terminate their agreements with us or otherwise fail to conduct their collaborative activities successfully and in a timely manner. In addition, our collaborators may elect not to develop products arising out of our collaborative arrangements or to devote sufficient resources to the development, regulatory approval, manufacture, marketing or sale of these products. If any of these events occur, we may not be able to develop our technologies or commercialize our products.

An important part of our strategy involves conducting multiple product development programs. We may pursue opportunities in fields that conflict with those of our collaborators. In addition, disagreements with our collaborators could develop over rights to our intellectual property. The resolution of such conflicts and disagreements may require us to relinquish rights to our intellectual property that we believe we are entitled to. In addition, any disagreement or conflict with our collaborators could reduce our ability to obtain future collaboration agreements and negatively impact our relationship with existing collaborators. Such a conflict or disagreement could also lead to delays in collaborative research, development, regulatory approval or commercialization of various products or could require or result in litigation or arbitration, which would be time consuming and expensive and could have a significant negative impact on our business, financial condition and results of operations.

Our collaboration agreements may prohibit us from conducting research in areas that may compete with our collaboration products, while our collaborators may not be limited to the same extent. This could negatively affect our ability to develop products and, ultimately, prevent us from achieving a continuing source of revenues.

We anticipate that some of our corporate or academic collaborators will be conducting multiple product development efforts within each disease area that is the subject of its collaboration with us. We generally have agreed not to conduct independently, or with any third party, certain research that is competitive with the research conducted under our collaborations. Therefore, our collaborations may have the effect of limiting the areas of research that we may pursue, either alone or with others. Some of our collaborators, however, may develop, either alone or with others, products in related fields that are competitive with the products or potential products that are the subject of their collaborations with us. In addition, competing products, either developed by the collaborators or to which the collaborators have rights, may result in their withdrawing support for our product candidates.

Generally under our academic collaborations, we retain the right to exclusively license any technologies developed using funding we provided. If we elect to not license a particular technology, the academic collaborator is typically free to use the technology for any purpose, including the development and commercialization of products that might compete with our products.

We are an early stage company deploying unproven technologies, and we may never be able to develop, get regulatory approval of, or market any of our product candidates.

The therapeutic use of gene-based products is a new and rapidly evolving medical approach, which has not been shown to be effective on a widespread basis. Biotechnology and pharmaceutical companies have successfully developed and commercialized only a limited number of gene-based products to date. In addition, no gene therapy product has received regulatory approval in the United States. To date, none of our product candidates has been approved for sale in the United States or elsewhere. We may be unable to develop products or delivery systems that:

prove to be safe and effective;

meet applicable regulatory standards;

are capable of being manufactured at reasonable costs;

do not infringe the intellectual property rights of third parties;

are superior to products offered by third parties; or

can be marketed successfully.

Gene-based products are susceptible to various risks, including undesirable and unintended side effects from genes or the delivery systems, unintended immune responses, inadequate therapeutic efficacy or other characteristics that may prevent or limit their approval or commercial use. Successful products require significant development and investment, including a lengthy and uncertain period of testing to show their safety and effectiveness before their regulatory approval or commercialization. We have not proven our ability to develop, obtain regulatory approval of or commercialize gene-based products. We may be unable to successfully select those genes or cells with the most potential for commercial development.

If we fail to adequately show the safety and efficacy of our product candidates, we will not be able to obtain FDA approval of our product candidates.

We face the risk of failure involved in developing therapies based on new technologies. While certain of our product candidates are in clinical trials, there are others for which we have not yet initiated clinical trials. For those product candidates not yet in clinical trials, we will need to conduct significant additional research and animal testing, referred to as preclinical testing, before any of these product candidates can advance to clinical trials. In addition, we will need to conduct further clinical testing of those product candidates currently in clinical trials. It may take us many years to complete preclinical testing or trials, and failure could occur at any stage of testing. Acceptable results in early testing or trials might not be repeated later. Not all products in preclinical testing or early stage clinical trials will become approved products. Before we can file applications with the FDA for product approval, we must show that a particular product candidate is safe and effective. Even with respect to those product candidates currently in clinical trials, we must demonstrate the safety and efficacy of those product candidates before we can secure FDA approval. Our failure to adequately show the safety and effectiveness of our product candidates would prevent FDA approval of our products. Our product development costs will increase if we experience delays in testing or regulatory approvals or if we need to perform more or larger clinical trials than planned. If the delays are significant, they could negatively affect our financial results and the commercial prospects for our product candidates.

Because we or our collaborators must obtain regulatory approval to market our products in the United States and in non-U.S. jurisdictions, we cannot predict whether or when we will be permitted to commercialize our products; failure to comply with applicable regulations can also harm our business and operations.

The pharmaceutical industry is subject to stringent regulation by a wide range of authorities. We cannot predict whether we or our collaborators will obtain regulatory approval for any product we develop. No organization can market a pharmaceutical product in the United States until it has completed rigorous preclinical testing and clinical trials of the product and an extensive regulatory approval process implemented by the FDA. To date, the FDA has not approved a gene therapy product for sale in the United States. Satisfaction of regulatory requirements typically takes many years, is dependent upon the type, complexity and novelty of the product and requires the expenditure of substantial resources. Of particular significance are the requirements covering research and development, testing, manufacturing, quality control, labeling and promotion of drugs for human use. Before commencing clinical trials, we must submit to the FDA and receive approval from the FDA of an Investigational New Drug application. Clinical trials are subject to oversight by Institutional Review Boards and the FDA. Clinical trials are also subject to:

- informed consent;
- good clinical practices (GCP);
- continuing FDA oversight;
- potentially large numbers of test subjects; and
- potential suspension by us, our collaborators or the FDA at any time if it is believed that the subjects participating in these trials are being exposed to unacceptable health risks or if the FDA finds deficiencies in the Investigational New Drug application or the conduct of these trials.

We may encounter delays or rejections in the regulatory approval process because of additional government regulation from future legislation or administrative action or changes in FDA policy during the period of product development, clinical trials and FDA regulatory review. Failure to comply with applicable FDA or other applicable regulatory requirements may result in criminal prosecution, civil penalties, recall or seizure of products, total or partial suspension of production or injunction, as well as other regulatory action against our product candidates or us. If regulatory approval of a product is granted, this approval will be limited to those disease indications for which the product has shown through clinical trials to be safe and effective. The FDA also strictly regulates promotion and labeling after approval. Outside the United States, our ability to market a product is contingent upon receiving clearances from the appropriate regulatory authorities. This non-U.S. regulatory approval process includes risks similar to those associated with FDA clearance described above.

If we or our collaborators are unable to manufacture our products in sufficient quantities or are unable to obtain regulatory approvals for a manufacturing facility for our products, we may experience delays, and be unable to meet demand, and may lose potential revenues.

Completion of our clinical trials and commercialization of our product candidates require access to, or development of, facilities to manufacture a sufficient supply of our product candidates. We have limited experience manufacturing any of our gene-based products in the volumes that will be necessary to support large-scale clinical trials or commercial sales. We do not yet know the extent to which we will be able to develop our Gaithersburg manufacturing facilities and processes to manufacture gene therapy product candidates. Efforts to establish capabilities, if pursued, may not meet expectations as to scheduling, reproducibility, yield, purity, cost, potency or quality.

If we or our collaborators are unable to manufacture our product candidates in clinical quantities or, when necessary, commercial quantities, then we will need to rely on third parties to manufacture compounds for clinical and commercial purposes. These third-party manufacturers must receive FDA approval before they can produce clinical material or commercial products. Our products may be in competition with other products for access to these facilities and may be subject to delays in manufacture if third parties give other products greater priority. In addition, we may not be able to enter into necessary third-party manufacturing arrangements on acceptable terms, or on a timely basis. There are very few contract manufacturers who currently have the capability to produce our proposed products, and the inability of any of these contract manufacturers to deliver our required quantities of product candidates on a timely basis and at commercially reasonable prices may negatively affect our operations.

Before we or our collaborators can begin commercial manufacturing of any of our product candidates, we or our collaborators must obtain regulatory approval of the manufacturing facility and process. Manufacturing of our proposed products must comply with the FDA' s current Good Manufacturing Practices requirements, commonly known as cGMP, and non-U.S. regulatory requirements. The cGMP requirements govern quality control and documentation policies and procedures. In complying with cGMP and non-U.S. regulatory requirements, we will be obligated to expend time, money and effort in production, recordkeeping and quality control to assure that the product meets applicable specifications and other requirements. We or our collaborators must also pass a pre-approval inspection to obtain FDA approval. If we or our collaborators fail to comply with these requirements, our product candidates would not be approved. If we or our collaborators fail to comply with these requirements after approval, we would be subject to possible regulatory action and may be limited in the jurisdictions in which we are permitted to sell our products. The FDA and non-U.S. regulatory authorities also have the authority to perform unannounced periodic inspections of our manufacturing facility to ensure compliance with cGMP and non-U.S. regulatory requirements.

If successful large-scale manufacturing of gene-based medicines is not possible, we may be unable to manufacture enough of our product candidates to achieve regulatory approval or market our products.

Very few companies have shown successful large-scale manufacturing of gene-based medicines, and there are significant uncertainties and risks associated with the scale up of our manufacturing processes to commercial levels. There are a limited number of contract manufacturers qualified to perform large-scale manufacturing of gene-based medicines. We may be unable to manufacture commercial-scale quantities of gene-base medicines, or receive appropriate government approvals, on a timely basis or at all. Failure to successfully manufacture or obtain appropriate government approvals on a timely basis or at all would prevent us from achieving our business objectives.

We may experience difficulties or delays in product manufacturing, which are beyond our control and could harm our business, because we rely on third-party manufacturers.

We currently expect to produce our product candidates through third-party manufacturers. Problems with any manufacturing processes could result in product defects, which could require us to delay shipment of products or recall products previously shipped. In addition, any prolonged interruption in the operations of our or a third party' s manufacturing facilities could result in the cancellation of shipments. A number of factors could cause interruptions, including equipment malfunctions or process failures, or damage to a facility due to natural disasters or otherwise. Because our manufacturing processes are or are expected to be highly complex and subject to a lengthy FDA approval process, alternative qualified production capacity may not be available on a timely basis or at all.

Difficulties or delays in our manufacturing could increase our costs and damage our reputation. The manufacture of pharmaceutical products can be an expensive, time-consuming, and complex process. Manufacturers often encounter difficulties in scaling-up production of new products, including problems involving the transfer of manufacturing technology, production yields, quality control and assurance, and shortages of personnel. Delays in scale-up to commercial quantities could result in additional expense and delays in our clinical trials, regulatory submissions and commercialization.

We rely on a limited number of suppliers for some of our manufacturing materials. Any problems experienced by any of these suppliers could negatively affect our operations.

We rely on third-party suppliers and vendors for some of the materials used in the manufacture of our product candidates. Some of these materials are available from only one supplier or vendor. For supply of early clinical trial materials, we rely on one supplier, Invitrogen Corporation, for its cell culture medium and Cambrex for custom buffers. The cell culture medium is used to grow the cells within which our product candidates are produced. For supply of late-stage clinical trial materials, we currently are planning to use purification resins from the Applied Biosystems Group of Applera Corporation and the BioSepra S.A. Process Division of Pall Corporation. We do not currently have supply agreements with any of these suppliers. Any significant problem experienced by one of our suppliers could result in a delay or interruption in the supply of materials to us until such supplier resolves the problem or an alternative source of supply is located. We have limited experience with alternative sources of raw materials. Any delay or interruption would likely lead to a delay or interruption of manufacturing operations, which could negatively affect our operations.

We have limited marketing capabilities, and if we are unable to enter into collaborations with marketing partners or develop our own sales and marketing capability, we may not be successful in commercializing our products.

We currently have limited sales, marketing and distribution capabilities. As a result, we will depend on collaborations with third parties that have established distribution systems and direct sales forces. To the extent that we enter into co-promotion or other licensing arrangements, our revenues will depend upon the efforts of third parties, over which we may have little or no control. If we are unable to reach and maintain agreements with one or more pharmaceutical companies or collaborators, we may be required to market our products directly. In any case we may elect to establish our own specialized sales force and marketing organization to market our products to physicians. In order to do this, we would have to develop a marketing and sales force with technical expertise and with supporting distribution capability. Developing a marketing and sales force is expensive and time consuming and could delay a product launch. We cannot be certain that we will be able to attract and retain qualified sales personnel or otherwise develop this capability.

We face substantial competition from other companies and research institutions that are developing products to treat the same diseases that our product candidate' s target, and we may not be able to compete successfully.

We compete with pharmaceutical and biotechnology companies that are pursuing other forms of treatment for the diseases that our product candidates target. We may also face competition from companies that may develop competing technology internally or acquire it from universities and other research institutions. As these companies develop their technologies, they may develop proprietary positions, which may prevent or limit our product commercialization efforts.

Some of our competitors are established companies with greater financial and other resources than we have. We expect that competition in our business will intensify. Our competitors may succeed in:

identifying important genes or delivery mechanisms before us;

developing products or product candidates earlier than we do;

forming collaborations before we do, or precluding us from forming collaborations with others;

obtaining approvals from the FDA or other regulatory agencies for such products more rapidly than we do;

developing and validating manufacturing processes more rapidly than we do;

obtaining patent protection to other intellectual property rights that would limit or preclude our ability to use our technologies or develop products; or

developing products that are safer or more effective than those we develop or propose to develop.

While we seek to expand our technological capabilities to remain competitive, research and development by others may render our technology or product candidates obsolete or noncompetitive or result in treatments or cures superior to any therapy developed by us.

Risks Related to Our Industry

If we are unable to adequately protect our intellectual property rights, our competitors may be able to take advantage of our research and development efforts to compete with us.

Our commercial success will depend in part on obtaining patent protection for our products and other technologies and successfully defending these patents against third party challenges. Our patent position, like that of other biotechnology firms, is highly uncertain and involves complex legal and factual questions. The biotechnology patent situation in the United States and other countries is uncertain and is currently undergoing review and revision. Changes in, or different interpretations of, patent laws in the United States and other countries might allow others to use our discoveries or to develop and commercialize our products without any compensation to us.

Our ability to develop and protect a proprietary position based on biotechnological innovations and technologies involving genes and gene therapy, delivery systems, production, formulations and the like, is particularly uncertain. The U.S. Patent and Trademark Office, as well as the patent offices in other countries, have often required that patent applications concerning biotechnology-related inventions be limited or narrowed substantially. Our disclosures in our patent applications may not be sufficient to meet the statutory requirements for patentability in all cases. In addition, other companies or institutions possess issued patents and have filed and will file patent applications that cover or attempt to cover genes, vectors, cell lines, and methods of making and using gene therapy products that are the same as or similar to the subject matter of our patent applications. For example, while we have pending patent applications pertaining to particular adenovectors that cannot reproduce themselves, and adenovectors modified to alter cell binding characteristics, we are aware of issued patents and pending patent applications of other companies and institutions relating to the same subject matter. Patents and patent applications of third parties may have priority over our issued patents and our pending or yet to be filed patent applications. Proceedings before the U.S. Patent and Trademark Office and other patent offices to determine who properly lays claim to inventions are costly and time consuming, and we may not win in any such proceedings.

The issued patents we already have or may obtain in the future may not provide commercially meaningful protection against competitors. Other companies or institutions may challenge our or our collaborators' patents in the United States and other countries. In the event a company, institution or researcher infringes upon our or our collaborators' patent rights, enforcing these rights may be difficult and can be expensive and time consuming, with no guarantee that our or our collaborators' patent rights will be upheld. Others may be able to design around these patents or develop unique products providing effects similar to our products. In addition, our competitors may legally challenge our patents and they may be held to be invalid. In addition, various components used in developing gene therapy products, such as particular genes, vectors, promoters, cell lines and construction methods, used by others and us, are available to the public. As a result, we are unable to obtain patent protection with respect to such components, and third parties can freely use such components. Third parties may develop products using such components that compete with our potential products. Also, with respect to some of our patentable inventions, we or our collaborators have decided not to pursue patent protection outside the United States. Accordingly, our competitors could develop, and receive non-U.S. patent protection for, gene therapies or technologies for which we or our collaborators have or are seeking U.S. patent protection. Our competitors may be free to use these gene therapies or technologies outside the United States in the absence of patent protection. Where we believe patent protection is not appropriate we rely to a limited extent on trade secrets to protect our technology. However, trade secrets are difficult to protect. While we have entered into confidentiality agreements with employees and collaborators, we may not be able to prevent the disclosure or use of our trade secrets. In addition, other companies or institutions may independently develop substantially equivalent information and techniques.

If our potential products conflict with intellectual property rights of competitors, universities or others, then we may be prevented from developing those product candidates.

Other companies and institutions have issued patents and have filed and will file patent applications that may issue into patents that cover or attempt to cover genes, vectors, cell lines and methods of making and using gene and gene-based therapy products used in or similar to our product candidates and technologies. For example, we are aware of issued patents and pending patent applications relating to the delivery, including through the use of adenovectors, of medically beneficial substances to the heart and other tissues. It could be alleged that our BIOBYPASS angiogen conflicts with these patents. We also are aware of other issued patents and pending patent applications that relate to various aspects of our other product candidates and systems, including TNFerade, and it could be alleged that our product candidates conflict with these patents. We have not conducted freedom to use patent searches on all aspects of our product candidates or potential product candidates, and we may be unaware of relevant patents and patent applications of third parties. In addition, those freedom to use patent searches that have been conducted may not have identified all relevant issued patents or all relevant pending patent applications that could issue into patents, particularly in view of the characterizations of the subject matter of issued patents and pending patent applications, as well as the fact that pending patent applications can be maintained in secrecy for a period of time and, in some circumstances, until issuance as patents.

An issued patent gives rise to a rebuttable presumption of validity under U.S. law and the laws of some other countries. The holder of a patent to which we or our collaborators do not hold a license could bring legal actions against our collaborators or us for damages or to stop us or our collaborators from using the affected technology, which could limit or preclude our ability to develop and commercialize our product candidates. If any of our potential products are found to infringe a patent of a competitor or third party, we or our collaborators may be required to pay damages and to either obtain a license in order to continue to develop and commercialize the potential products or, at the discretion of the competitor or third party, to stop development and commercialization of the potential products. Since we have concentrated our resources on developing only a limited number of products, the inability to market one of our products would disproportionately affect us as opposed to a competing company with many products in development.

We believe that there will be significant litigation in our industry regarding intellectual property rights. Many of our competitors have expended and are continuing to expend significant amounts of time, money and management resources on intellectual property litigation. If we become involved in litigation, it could consume a substantial portion of our resources and could adversely affect our business, financial condition and results of operations, even if we ultimately are successful in such litigation, in view of our limited resources.

If our right to use intellectual property we license from others is affected, our ability to develop and commercialize our product candidates may be harmed.

We rely, in part, on licenses to use some technologies that are material to our business. For example, to create our product candidates, we combine our vectors with genes intended to produce proteins. For our current product candidates, we have secured licenses to use the VEGF121, TNF − alpha, and PEDF genes. We do not own the patents or patent applications that underlie these licenses. For these genes, we do not control the enforcement of the patents. We rely upon our licensors to properly prosecute and file those patent applications and to prevent infringement of those patents.

While many of the licenses under which we have rights provide us with exclusive rights in specified fields, the scope of our rights under these and other licenses may be subject to dispute by our licensors or third parties. In addition, our rights to use these technologies and practice the inventions claimed in the licensed patents and patent applications are subject to our licensors abiding by the terms of those licenses and not terminating them. Any of our licenses may be terminated by the licensor if we are in breach of a term or condition of the license agreement, or in certain other circumstances. In addition, some of our licenses require us to achieve specific milestones.

Our product candidates and potential product candidates will require several components that may each be the subject of a license agreement. The cumulative license fees and royalties for these components may make the commercialization of these product candidates uneconomical.

Adverse events in the field of gene therapy may negatively affect regulatory approval or public perception of our products or product candidates.

In September 1999, a patient undergoing gene therapy using an adenoviral vector to deliver a therapeutic gene died as a result of an adverse reaction to the treatment. This death was widely publicized. Other patient deaths have occurred in other gene-based clinical trials. These deaths and the resulting publicity surrounding them, as well as any other serious adverse events in the field of gene therapy that may occur in the future, may result in greater governmental regulation of our product candidates and potential regulatory delays relating to the testing or approval of our product candidates. As a result of the incident in September 1999, the United States Senate held a series of hearings to determine whether additional legislation was required to protect patients who participate in clinical trials. Possibly as a consequence of these hearings, a specific division within the FDA for gene and cell therapy was established. Furthermore, extended patient follow-up for gene therapy product candidates has been recommended.

Additionally, the National Institutes of Health and its advisory bodies routinely review the field of gene therapy and issue reports on the adverse events reported by investigators. The NIH has approved a proposal to establish a Gene Transfer Safety Assessment Board to review serious adverse event reports, annual reports and other safety information in order to assess toxicity and safety and report these findings at NIH Recombinant DNA Advisory Committee (RAC) meetings. Additional scrutiny cannot be ruled out. Any increased scrutiny could delay or increase the costs of our product development efforts or clinical trials.

The commercial success of our product candidates will depend in part on public acceptance of the use of gene therapies for the prevention or treatment of human disease. Public attitudes may be influenced by claims that gene therapy is unsafe, and gene therapy may not gain the acceptance of the public or the medical community. Negative public reaction to gene therapy could result in greater government regulation and stricter clinical trial oversight and commercial product labeling requirements of gene therapy products and could cause a decrease in the demand for any products we may develop.

Our product candidates involve new technologies and therapeutic approaches in the field of gene therapy, which is a new and evolving field. As discussed above, no gene therapy product has received regulatory approval in the United States, and adverse events in this field may negatively affect public perception of our product candidates. Even if our product candidates attain regulatory approval, our success will depend upon the medical community, patients and third party payors accepting gene therapy products in general, and our product candidates in particular, as medically useful, cost-effective and safe. In particular, our success will depend upon physicians specializing in the treatment of those diseases that our product candidates target prescribing treatments that involve the use of our product candidates in lieu of, or in addition to, existing treatments that they are already familiar with and for which greater clinical data may be available. Even if the clinical safety and efficacy of our product candidates is established, physicians may elect not to recommend our products for a variety of reasons, including the reimbursement policies of government and third-party payors. Further, third-party payors, such as health insurance plans, may be reluctant to authorize and pay for new forms of treatment that they may deem expensive and less-proven that existing treatments. Even if gene therapy products, and our product candidates in particular, are accepted by the medical community and third-party payors, the public in general, or patients in particular, may be uncomfortable with new therapies, including our product candidates, and it could take substantial time for them to accept gene therapy products as a viable treatment alternative, if ever. If gene therapy and our product candidates do not gain widespread acceptance, we may be unable to generate significant revenues, if any, which would adversely affect our results of operations. In addition, even if our product candidates achieve market acceptance, we may not be able to maintain that market acceptance over time if new products or technologies are introduced that are more favorably received than our product candidates or render them obsolete.

We may be sued for product liability, which could damage our reputation and expose us to unanticipated costs.

We, alone or with our collaborators, may be held liable if any product we or our collaborators develop, or any product, which is made with the use or incorporation of any of our technologies, causes injury or is found otherwise unsuitable during product testing, manufacturing, marketing or sale. Regardless of the merit or eventual outcome, product liability claims may result in:

withdrawal of product candidates from our clinical trials;

withdrawal of our products from the market; if they have been approved;

damage to our reputation;

costs of litigation;

substantial monetary awards to plaintiffs; and

decreased demand for our products or product candidates.

Although we currently have and intend to maintain product liability insurance, this insurance may become prohibitively expensive, or may not fully cover our potential liabilities. Inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could prevent or inhibit the commercialization of products developed by us or in collaboration with others. Currently, we have a total of $5 million liability coverage under a clinical trials and professional liability insurance policy. If we are sued for any injury caused by our products, our liability could exceed our total resources.

We use hazardous chemicals and radioactive and biological materials in our business; any liability or disputes relating to improper handling, storage or disposal of these materials could be time consuming and costly.

Our research and development processes involve the use of hazardous materials, including chemicals and radioactive and biological materials, and also produce hazardous waste products. Hazardous chemicals used in our processes include, but are not limited to, flammable solvents such as methanol and ethanol, toxic chemicals such as ethidium bromide and formaldehyde, and corrosive chemicals such as acetic acid and sodium hydroxide. We also use several radioactive compounds, including phosphorous-32, carbon-14, sulfur-35, phosphorous-33, iodine-125, hydrogen-3, and chromium-51.

The hazardous biological material used in our research and development activities include human and animal cell lines and viruses, such as adenoviruses, and animals infected with human viruses. Some of the biological material may be novel, including viruses with novel properties. We cannot eliminate the risk of accidental contamination or discharge or injury from these materials. Federal, state, and local laws and regulations govern the use, manufacture, storage, handling and disposal of these materials. We could be subject to civil damages in the event of an improper or unauthorized release of, or exposure of individuals to, these hazardous materials. In addition, claimants may sue us for injury or contamination that results from our use or the use by third parties of these materials, and our liability may exceed our total assets. Compliance with environmental laws and regulations may be expensive, and current or future environmental regulations may impair our research, development or production efforts. Although we have general liability insurance, these polices contain exclusions from insurance against claims arising from pollution from chemical or radioactive materials. Our collaborators are working with these types of hazardous materials in connection with our collaborations. In the event of a lawsuit or investigation, we could be held responsible for any injury we or our collaborators cause to persons or property by exposure to, or release of, any hazardous materials. However, we believe that we are currently in compliance with all applicable environmental and occupational health and safety regulations.

If reforms in the health care industry make reimbursement for our potential products less likely, the market for our potential products will be reduced, and we will lose potential sources of revenue.

Our success may depend, in part, on the extent to which reimbursement for the costs of therapeutic products and related treatments will be available from third-party payors such as government health administration authorities, private health insurers, managed care programs, and other organizations. Over the past decade, the cost of health care has risen significantly, and there have been numerous proposals by legislators, regulators, and third-party health care payors to curb these costs. Some of these proposals have involved limitations on the amount of reimbursement for certain products. Similar federal or state health care legislation may be adopted in the future and any products that we or our collaborators seek to commercialize may not be considered cost-effective. Adequate third-party insurance coverage may not be available for us to establish and maintain price levels that are sufficient for realization of an appropriate return on our investment in product development. Moreover, the existence or threat of cost control measures could cause our corporate collaborators to be less willing or able to pursue research and development programs related to our product candidates.

Risks Related To The Committed Equity Financing Facility With Kingsbridge

The Committed Equity Financing Facility ("CEFF") that we entered into with Kingsbridge may not be available to us if we elect to make a draw down, may require us to make additional "blackout" or other payments to Kingsbridge, and may result in dilution to our stockholders.

The CEFF entitles us to sell and obligates Kingsbridge to purchase, from time to time over a period of three years, shares of our common stock for cash consideration up to an aggregate of $30 million, subject to certain conditions and restrictions. Kingsbridge will not be obligated to purchase shares under the CEFF unless certain conditions are met, which include a minimum price for our common stock; the accuracy of representations and warranties made to Kingsbridge; compliance with laws; effectiveness of the registration statement of which this prospectus is a part; and the continued listing of our stock on the Nasdaq National Stock market. In addition, Kingsbridge is permitted to terminate the CEFF if it determines that a material and adverse event has occurred affecting our business, operations, properties or financial condition and if such condition continues for a period of 10 days from the date Kingsbridge provides us notice of such material and adverse event. If we are unable to access funds through the CEFF, or if the CEFF is terminated by Kingsbridge, we may be unable to access capital on favorable terms or at all.

We are entitled in certain circumstances, to deliver a blackout notice to Kingsbridge to suspend the use of the registration statement of which this prospectus is a part and prohibit Kingsbridge from selling shares under this prospectus. If we deliver a blackout notice in the 15 trading days following the settlement of a draw down, or if the registration statement is not effective in circumstances not permitted by the agreement, then we must make a payment to Kingsbridge, or issue Kingsbridge additional shares in lieu of this payment, calculated on the basis of the number of shares held by Kingsbridge (exclusive of shares that Kingsbridge may hold pursuant to exercise of the Kingsbridge warrant) and the change in the market price of our common stock during the period in which the use of the registration statement is suspended. If the trading price of our common stock declines during a suspension of the registration statement, the blackout or other payment could be significant.

Should we sell shares to Kingsbridge under the CEFF, or issue shares in lieu of a blackout payment, it will have a dilutive effect on the holdings of our current stockholders, and may result in downward pressure on the price of our common stock. If we draw down under the CEFF, we will issue shares to Kingsbridge at a discount of up to 12 percent from the volume weighted average price of our common stock. If we draw down amounts under the CEFF when our share price is decreasing, we will need to issue more shares to raise the same amount than if our stock price was higher. Issuance in the face of a declining share price will have an even greater dilutive effect than if our share price were stable or increasing, and may further decrease our share price.

Committed Equity Financing Facility

On March 15, 2006, we entered into a Committed Equity Financing Facility ("CEFF"), with Kingsbridge, pursuant to which Kingsbridge committed to purchase, subject to certain conditions, up to $30 million of our common stock to support our future corporate and clinical development activities. In connection with the CEFF, we entered into a common stock purchase agreement and registration rights agreement with Kingsbridge, both dated March 15, 2006, and on that date we also issued a warrant to Kingsbridge to purchase 520,000 shares of our common stock at a price of $2.67 per share. This warrant is exercisable beginning six months after March 15, 2006 and for a period of five years thereafter.

The common stock purchase agreement entitles us to sell and obligates Kingsbridge to purchase, from time to time over a period of three years, shares of our common stock for cash consideration up to an aggregate of $30 million, subject to certain conditions and restrictions. The shares of common stock that may be issued to Kingsbridge under the common stock purchase agreement and the warrant will be issued pursuant to an exemption from registration under the Securities Act of 1933, as amended, or the Securities Act. Pursuant to the registration rights agreement, we have filed a registration statement of which this prospectus is a part, covering the possible resale by Kingsbridge of any shares that we may issue to Kingsbridge under the common stock purchase agreement or upon exercise of the warrant. Through this prospectus, the selling stockholder may offer to the public for resale shares of our common stock that we may issue to Kingsbridge pursuant to the common stock purchase agreement, or that Kingsbridge may acquire upon exercise of the warrant.

For a period of 36 months from the first trading day following the effectiveness of this prospectus, we may, from time to time, at our discretion, and subject to certain conditions that we must satisfy, draw down funds under the CEFF by selling shares of our common stock to Kingsbridge. The purchase price of these shares will be at a discount of up to 12 percent from the volume weighted average of the price of our common stock for each of the 8 trading days following our election to sell shares, or "draw down" under the CEFF. The discount on each of these eight trading days will be determined as follows:

Volume Weighted Average Price ("VWAP")	Percent of VWAP (Applicable Discount)	
Greater than $8.50 per share	92%	(8)%
Greater than $3.00 per share but less than or equal to $8.50 per share	90%	(10)%
Greater than or equal to $1.25 per share but less than or equal to $3.00 per share	88%	(12)%

For each Trading Day during a Draw Down Pricing Period that the VWAP is less than the greater of (i) 75% of the Closing Price of the Company' s Common Stock on the Trading Day immediately preceding the commencement of such Draw Down Pricing Period, or (ii) $1.25, such Trading Day shall not be used in calculating the number of Shares to be issued in connection with such Draw Down, and the Draw Down Amount in respect of such Draw Down Pricing Period shall be reduced by one eighth (1/8th) of the initial Draw Down Amount specified in the Draw Down Notice. If trading in the Company' s Common Stock is suspended for any reason for more than three (3) consecutive or non-consecutive hours during any Trading Day during a Draw Down Pricing Period, such Trading Day shall not be used in calculating the number of Shares to be issued in connection with such Draw Down, and the Draw Down Amount in respect of such Draw Down Pricing Period shall be reduced by one eighth (1/8th) of the initial Draw Down Amount specified in the Draw Down Notice.

The maximum number of shares of common stock that we can issue pursuant to the CEFF is 12,735,050 shares. An additional 520,000 shares of common stock are issuable if Kingsbridge exercises the warrant that we issued to it in connection with its entry into the CEFF. We intend to exercise our right to draw down amounts under the CEFF, if and to the extent available, at such times as we have a need for additional capital and when we believe that sales of stock under the CEFF provide an appropriate means of raising capital. Under the terms of the CEEF, if we do not make cumulative draw downs of at least $2 million within any consecutive 12 month period following the first 12 month period of the term, Kingsbridge may terminate the arrangement.

Our ability to require Kingsbridge to purchase our common stock is subject to various limitations. We can make draw downs to a maximum of 1.75 percent of our market capitalization at the time of the draw down, or $5 million, whichever is less. Unless Kingsbridge agrees otherwise, a minimum of three trading days must elapse between the expiration of any draw down pricing period and the beginning of the next draw down pricing period. Kingsbridge is not obligated to purchase shares at prices below $1.25 per share.

During the term of the CEFF, without the prior written consent of Kingsbridge, we may not issue securities that are, or may become, convertible or exchangeable into shares of common stock where the purchase, conversion or exchange price for that common stock is determined using a floating discount or other post-issuance adjustable discount to the market price of the common stock, including pursuant to an equity line or other financing that is substantially similar to the arrangement provided for in the CEFF.

The issuance of our common stock under the CEFF or upon exercise of the Kingsbridge warrant will have no effect on the rights or privileges of existing holders of common stock except that the economic and voting interests of each stockholder will be diluted as a result of the issuance. Although the number of shares of common stock that stockholders presently own will not decrease, these shares will represent a smaller percentage of our total shares that will be outstanding after any issuances of shares of common stock to Kingsbridge. If we draw down amounts under the CEFF when our share price is decreasing, we will need to issue more shares to raise the same amount than if our stock price was higher. Such issuances will have a dilutive effect and may further decrease our stock price.

Kingsbridge agreed in the common stock purchase agreement that during the term of the CEFF, neither Kingsbridge nor any of its affiliates, nor any entity managed or controlled by it, will enter into any short sale of any shares of our common stock as defined in Regulation SHO promulgated under the Securities Exchange Act of 1934, as amended. In addition, Kingsbridge agreed that neither Kingsbridge nor any of its affiliates, nor any entity managed or controlled by it, will sell during any draw down pricing period, shares of our common stock, other than shares of our common stock purchased (or to be purchased) during that draw down pricing period.

Before Kingsbridge is obligated to buy any shares of our common stock pursuant to a draw down, the following conditions, none of which is in Kingsbridge' s control, must be met:

Each of our representations and warranties in the common stock purchase agreement must be true and correct in all material respects as of the date when made and as of the draw down exercise date as though made at that time, except for representations and warranties that are expressly made as of a particular date.

We must have performed, satisfied and complied in all material respects with all covenants, agreements and conditions required by the common stock purchase agreement, the registration rights agreement and the warrant to be performed, satisfied or complied with by us.

We must have complied in all material respects with all applicable federal, state and local governmental laws, rules, regulations and ordinances in connection with the execution, delivery and performance of the common stock purchase agreement and the consummation of the transactions it contemplates.

The registration statement, which includes this prospectus, must have previously become effective and shall remain effective.

We must not have knowledge of any event that could reasonably be expected to have the effect of causing the registration statement, of which this prospectus is a part, to be suspended or otherwise ineffective.

Trading in our common stock must not have been suspended by the Securities and Exchange Commission, the Nasdaq Stock Market or the National Association of Securities Dealers, and trading in securities generally on the Nasdaq Stock Market must not have been suspended or limited.

No statute, rule, regulation, executive order, decree, ruling or injunction can have been enacted, entered, promulgated or endorsed by any court or governmental authority which prohibits the consummation of any of the transactions contemplated by the common stock purchase agreement.

No action, suit or proceeding before any arbitrator or any governmental authority can have been commenced, and no investigation by any governmental authority can have been threatened, against us or any of our officers, directors or affiliates seeking to enjoin, prevent or change the transactions contemplated by the common stock purchase agreement.

We must have sufficient shares of common stock, calculated using the closing trade price of the common stock as of the trading day immediately preceding a draw down, registered under the registration statement to issue and sell such shares in accordance with such draw down.

The warrant to purchase 520,000 shares of our common stock must have been duly executed, delivered and issued to Kingsbridge, and we must not be in default in any material respect under the warrant.

Kingsbridge must receive an opinion of our legal counsel in the form previously agreed to.

Since March 15, 20006, no event or series of events can have occurred that, individually or in the aggregate, (i) has had or have had, or (ii) could reasonably be expected to have, a material adverse effect on us, other than any such material adverse effect that has been cured as of the draw down exercise date.

We are current on all undisputed expense invoices that we are required to pay pursuant to the common stock purchase agreement.

There is no guarantee that we will be able to meet the foregoing conditions or any other conditions under the common stock purchase agreement or that we will be able to draw down any portion of the amounts available under the CEFF.

We also entered into a registration rights agreement with Kingsbridge. Pursuant to the registration rights agreement, we have filed a registration statement, which includes this prospectus, with the SEC relating to the resale by Kingsbridge of any shares of common stock purchased by Kingsbridge under the common stock purchase agreement or issued to Kingsbridge as a result of the exercise of the Kingsbridge warrant. The effectiveness of this registration statement is a condition precedent to our ability to sell common stock to Kingsbridge under the common stock purchase agreement. We are entitled in certain circumstances, including the existence of certain kinds of nonpublic information, to deliver a blackout notice to Kingsbridge to suspend the use of this prospectus and prohibit Kingsbridge from selling shares under this prospectus. If we deliver a blackout notice in the 15 trading days following the settlement of a draw down, or if the registration statement of which this prospectus is a part is not effective in circumstances not permitted by the agreement, then we must pay amounts to Kingsbridge, or issue Kingsbridge additional shares in lieu of payment, calculated by means of a varying percentage of an amount based on the number of shares held by Kingsbridge and the change in the market price of our common stock between the date the blackout notice is delivered (or the registration statement is not effective) and the date the prospectus again becomes available.

The foregoing summary of the CEFF does not purport to be complete and is qualified by reference to the common stock purchase agreement, the registration rights agreement and the warrant, copies of which have been incorporated by reference.

Use of Proceeds

We will not receive any proceeds from the sale of the shares of our common stock by the selling stockholders pursuant to this prospectus. Any sale of shares by us to Kingsbridge under the Common Stock Purchase Agreement or in connection with the exercise of the Kingsbridge warrant will be made pursuant to an exemption from the registration requirements of the Securities Act. We will use the proceeds from these sales for general corporate purposes, including capital expenditures, the advancement of our drug candidates in clinical trials, and to meet working capital needs. The amounts and timing of the expenditures will depend on numerous factors, such as the timing and progress of our clinical trials and research and development efforts, technological advances and the competitive environment for our drug candidates. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from the sale of shares to Kingsbridge. Accordingly, we will retain broad discretion over the use of these proceeds, if any. Pending the uses described above, we plan to invest the net proceeds of this offering in short-term, interest-bearing obligations, investment-grade instruments, certificate of deposits or direct or guaranteed obligations of the U.S. government.

Selling Stockholder

This prospectus relates to the possible resale by the selling stockholder, Kingsbridge Capital Limited, of shares of common stock that we may issue pursuant to the common stock purchase agreement we entered into with Kingsbridge on March 15, 2006, or upon exercise of the warrant we issued to Kingsbridge. We are filing the registration statement of which this prospectus is a part pursuant to the provisions of the registration rights agreement we entered into with Kingsbridge.

The selling stockholder may from time to time offer and sell pursuant to this prospectus any or all of the shares that it acquires under the common stock purchase agreement or upon exercise of the warrant.

The following table presents information regarding Kingsbridge, or the selling stockholder, and the shares that it may offer and sell from time to time under this prospectus. This table is prepared based on information supplied to us by the selling stockholder, and reflects holdings as of March 15, 2006. As used in this prospectus, the term "selling stockholder" includes Kingsbridge and any donees, pledges, transferees or other successors in interest selling shares received after the date of this prospectus from a selling stockholder as a gift, pledge, or other non-sale related transfer. The number of shares in the column "Number of Shares Being Offered" represents all of the shares that a selling stockholder may offer under this prospectus. The selling stockholder may sell some, all or none of its shares. We do not know how long the selling stockholder will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholder regarding the sale of any of the shares.

Beneficial ownership is determined in accordance with Rule 13d-3(d) promulgated by the SEC under the Securities Exchange Act of 1934, as amended. The percentage of shares beneficially owned prior to the offering is based both on 63,714,726 shares of our common stock actually outstanding as of March 15, 2006 and on the assumption that all shares of common stock issuable under the common stock purchase agreement we entered into with Kingsbridge on March 15, 2006 and all shares of common stock issuable upon exercise of the warrant held by Kingsbridge are outstanding as of that date.

Security Holders	Shares of Common Stock Beneficially Owned Prior to Offering		Number of Shares Being Offered	Shares of Common Stock Beneficially Owned After Offering	
	Number	Percent		Number	Percent
Kingsbridge Capital Limited (1)	13,475,615(2)	21.1%	13,255,050(3)	220,565	0.3%

(1) The address of Kingsbridge is Kingsbridge Capital Limited, c/o Kingsbridge Corporate Services Limited, Main Street, Kilcullen, County Kildare, Republic of Ireland. Maria O' Donoghue and Adam Gurney have shared voting and investment control of the securities held by Kingsbridge. Kingsbridge does not accept third party investments.

(2) Includes 220,565 shares of common stock previously held by Kingsbridge.

(3) Consists of a maximum of up to 12,735,050 shares of common stock issuable under the common stock purchase agreement we entered into with Kingsbridge on March 15, 2006 and 520,000 shares of common stock issuable upon exercise of a warrant, which warrant is not exercisable before September 15, 2006. For the purposes hereof, we assume the issuance of all 13,255,050 shares. The actual number of shares sold by us to Kingsbridge may be less. See "Committed Equity Financing Facility."

Plan of Distribution

We are registering 13,255,050 shares of common stock under this prospectus on behalf of Kingsbridge. Except as described below, to our knowledge, the selling stockholder has not entered into any agreement, arrangement or understanding with any particular broker or market maker with respect to the shares of common stock offered hereby, nor, except as described below, do we know the identity of the brokers or market makers that will participate in the sale of the shares.

The selling stockholder may decide not to sell any shares. The selling stockholder may from time to time offer some or all of the shares of common stock through brokers, dealers or agents who may receive compensation in the form of discounts, concessions or commissions from the selling stockholder and/or the purchasers of the shares of common stock for whom they may act as agent. In effecting sales, broker-dealers that are engaged by the selling stockholder may arrange for other broker-dealers to participate. Kingsbridge is an "underwriter" within the meaning of the Securities Act. Any brokers, dealers or agents who participate in the distribution of the shares of common stock may also be deemed to be "underwriters," and any profits on the sale of the shares of common stock by them and any discounts, commissions or concessions received by any such brokers, dealers or agents may be deemed to be underwriting discounts and commissions under the Securities Act. Kingsbridge has advised us that it may effect resales of our common stock through any one or more registered broker-dealers. To the extent the selling stockholder may be deemed to be an underwriter, the selling stockholder will be subject to the prospectus delivery requirements of the Securities Act and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Securities Exchange Act of 1934, as amended, (the "Exchange Act").

The selling stockholder will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made over the NASDAQ Stock Market, on the over-the-counter market, otherwise, or in a combination of such methods of sale, at then prevailing market prices, at prices related to prevailing market prices or at negotiated prices. The shares of common stock may be sold according to one or more of the following methods:

a block trade in which the broker or dealer so engaged will attempt to sell the shares of common stock as agent but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker or dealer as principal and resale by such broker or dealer for its account pursuant to this prospectus;

an over-the-counter distribution in accordance with the NASDAQ rules;

ordinary brokerage transactions and transactions in which the broker solicits purchasers;

privately negotiated transactions;

a combination of such methods of sale; and

any other method permitted pursuant to applicable law.

Any shares covered by this prospectus which qualify for sale pursuant to Rule 144 of the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus. In addition, the selling stockholder may transfer the shares by other means not described in this prospectus.

Any broker-dealer participating in such transactions as agent may receive commissions from Kingsbridge (and, if they act as agent for the purchaser of such shares, from such purchaser). Broker-dealers may agree with Kingsbridge to sell a specified number of shares at a stipulated price per share, and, to the extent such a broker-dealer is unable to do so acting as agent for Kingsbridge, to purchase as principal any unsold shares at the price required to fulfill the broker-dealer commitment to Kingsbridge. Broker-dealers who acquire shares as principal may thereafter resell such shares from time to time in transactions (which may involve crosses and block transactions and which may involve sales to and through other broker-dealers, including transactions of the nature described above) on the NASDAQ National Market, on the over-the-counter market, in privately-negotiated transactions or otherwise at market prices prevailing at the time of sale or at negotiated prices, and in connection with such resales may pay to or receive from the purchasers of such shares commissions computed as described above. To the extent required under the Securities Act, an amendment to this prospectus, or a supplemental prospectus will be filed, disclosing:

the name of any such broker-dealers;

the number of shares involved;

the price at which such shares are to be sold;

the commission paid or discounts or concessions allowed to such broker-dealers, where applicable;

that such broker-dealers did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, as supplemented; and

other facts material to the transaction.

Underwriters and purchasers that are deemed underwriters under the Securities Act may engage in transactions that stabilize, maintain or otherwise affect the price of the securities, including the entry of stabilizing bids or syndicate covering transactions or the imposition of penalty bids. Kingsbridge and any other persons participating in the sale or distribution of the shares will be subject to the applicable provisions of the Exchange Act and the rules and regulations thereunder including, without limitation, Regulation M. These provisions may restrict certain activities of, and limit the timing of, purchases by the selling stockholder or other persons or entities. Furthermore, under Regulation M, persons engaged in a distribution of securities are prohibited from simultaneously engaging in market making and certain other activities with respect to such securities for a specified period of time prior to the commencement of such distributions, subject to special exceptions or exemptions. Regulation M may restrict the ability of any person engaged in the distribution of the securities to engage in market-making and certain other activities with respect to those securities. In addition, the anti-manipulation rules under the Exchange Act may apply to sales of the securities in the market. All of these limitations may affect the marketability of the shares and the ability of any person to engage in market-making activities with respect to the securities.

We have agreed to pay the expenses of registering the shares of common stock under the Securities Act, including registration and filing fees, printing expenses, administrative expenses and certain legal and accounting fees, as well as certain fees of counsel for the selling stockholder incurred in the preparation of the CEFF agreements and the registration statement of which this prospectus forms a part. The selling stockholder will bear all discounts, commissions or other amounts payable to underwriters, dealers or agents, as well as transfer taxes and certain other expenses associated with the sale of securities.

Under the terms of the Kingsbridge common stock purchase agreement and the registration rights agreement, we have agreed to indemnify the selling stockholder and certain other persons against certain liabilities in connection with the offering of the shares of common stock offered hereby, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute toward amounts required to be paid in respect of such liabilities.

At any time a particular offer of the shares of common stock is made, a revised prospectus or prospectus supplement, if required, will be distributed. Such prospectus supplement or post-effective amendment will be filed with the SEC, to reflect the disclosure of required additional information with respect to the distribution of the shares of common stock. We may suspend the sale of shares by the selling stockholder pursuant to this prospectus for certain periods of time for certain reasons, including if the prospectus is required to be supplemented or amended to include additional material information.

Incorporation of Certain Documents by Reference

The SEC allows us to incorporate by reference the information that we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of the prospectus. These documents may include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as Proxy Statements. Any documents that we subsequently file with the SEC will automatically update and replace the information previously filed with the SEC. Thus, for example, in the case of a conflict or inconsistency between information set forth in this prospectus and information incorporated by reference into this prospectus, you should rely on the information contained in the document that was filed later.

This prospectus incorporates by reference the documents listed below that we previously have filed with the SEC and any additional documents that we may file with the SEC (File No. 0-24469) under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act between the date of this prospectus and the termination of the offering of the securities. These documents contain important information about us.

1. Our Annual Report on Form 10-K for the year ended December 31, 2005;

2. The description of our common stock contained in our Registration Statement on Form 8-A filed under the Exchange Act on September 26, 2001, including any amendment or report filed for the purpose of updating such description; and

3. Our Form 8-A for our preferred share purchase rights filed on September 26, 2001.

You can obtain a copy of any or all of the documents incorporated by reference in this prospectus (other than an exhibit to a document unless that exhibit is specifically incorporated by reference into that document) from the SEC on its web site at http://www.sec.gov. You also can obtain these documents from us without charge by visiting our internet web site http://www.genvec.com or by requesting them in writing, by email or by telephone at the following address:

Jeffrey W. Church
Chief Financial Officer, Treasurer and Corporate Secretary
GenVec, Inc.
65 West Watkins Mill Road
Gaithersburg, Maryland 20878
(240) 632-0740
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Where You Can Find More Information

We have filed with the SEC a registration statement under the Securities Act that registers the distribution of the securities offered under this prospectus. The registration statement, including the attached exhibits and schedules and the information incorporated by reference, contains additional relevant information about the securities and us. The rules and regulations of the SEC allow us to omit from this prospectus certain information included in the registration statement.

In addition, we file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy this information and the registration statement at the SEC public reference room located at 450 Fifth Street, N.W., Washington D.C. 20549. Please call the Commission at 1-800-SEC-0330 for more information about the operation of the public reference room.

In addition, the SEC maintains an internet web site that contains reports, proxy statements and other information about issuers of securities, like us, who file such material electronically with the SEC. The address of that web site is http://www.sec.gov. We also maintain a web site at http://www.genvec.com, which provides additional information about our company.

Legal Matters

The validity of the shares of common stock offered hereby has been passed upon for us by Arnold & Porter LLP, Washington, D.C.

Experts

The financial statements of GenVec, Inc. as of December 31, 2005 and 2004, and for each of the years in the three-year period ended December 31, 2005, and management' s assessment of the effectiveness of internal control over financial reporting as of December 31, 2005 have been incorporated by reference herein in reliance upon the reports of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.