

SECURITIES AND EXCHANGE COMMISSION  
 WASHINGTON, D.C. 20549  
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FORM 10-K

(Mark One)

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

FOR THE FISCAL YEAR ENDED DECEMBER 31, 1996

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 0-19319

VERTEX PHARMACEUTICALS INCORPORATED  
 (Exact name of registrant as specified in its charter)

MASSACHUSETTS 04-3039129  
 (State of incorporation) (I.R.S. Employer Identification No.)

130 WAVERLY STREET  
 CAMBRIDGE, MASSACHUSETTS 02139-4242  
 (Address of principal executive offices) (Zip Code)

(617) 577-6000  
 (Registrant's telephone number, including area code)

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

Common Stock, \$0.01 par value  
 (Title of class)

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405  
 of Regulation S-K is not contained herein, and will not be contained, to the  
 best of the registrant's knowledge, in definitive proxy or information  
 statements incorporated by reference in Part III of this Form 10-K or any  
 amendment to this Form 10-K.   
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As of March 14, 1997 there were outstanding 24,680,649 shares of Common Stock,  
 \$.01 par value per share. The aggregate market value of shares of Common Stock  
 held by non-affiliates of the registrant, based upon the last sales price for  
 such stock on that date as reported by The Nasdaq Stock Market, was  
 approximately \$1,130,544,000.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive Proxy Statement for the 1997 Annual Meeting of  
 Stockholders to be held on May 8, 1997 are incorporated by reference into Part  
 III.

This Annual Report on Form 10-K contains forward-looking statements based on current management expectations. When used in this Report, the words "expects" "anticipates," "estimates," "plans," and similar expressions are intended to identify forward-looking statements. Such statements are subject to risks and uncertainties. Factors that could cause actual results to differ from these expectations include, but are not limited to, those discussed in the section of Item 1 entitled "Risk Factors." These forward-looking statements speak only as of the date of this Report. The Company expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in the Company's expectations with regard thereto or any change in the events, conditions or circumstances on which any such statement is based.

## PART I

### ITEM 1. BUSINESS

Vertex is engaged in the discovery, development and commercialization of novel, small molecule pharmaceuticals for the treatment of diseases for which there are currently limited or no effective treatments. The Company is a leader in the use of structure-based drug design, an approach to drug discovery that integrates advanced biology, biophysics and chemistry in a coordinated and simultaneous fashion. The Company believes that this integrated approach is applicable to therapeutic targets in a broad range of diseases. Vertex's goal is to create a portfolio of highly specific, proprietary, small molecule drugs based on its knowledge of the atomic structure of proteins involved in the control of disease processes. The Company's drug candidates for the treatment of human immunodeficiency virus ("HIV") infection and acquired immune deficiency syndrome ("AIDS"), cancer multidrug resistance ("MDR") in cancer and two genetic hemoglobin disorders are currently in clinical development. In addition, the Company has preclinical and research programs aimed at developing orally available small molecule compounds to treat autoimmune diseases, inflammatory diseases, neurodegenerative diseases and hepatitis C infection.

#### STRUCTURE-BASED DRUG DESIGN

Drugs are natural or synthetic compounds that interact with a target molecule, typically a protein, either to induce or to inhibit that molecule's function within the human body. Traditionally, pharmaceutical products have been discovered through the screening of thousands of compounds, either from existing chemical libraries or from fermentation broths, against a predictive assay for a particular disease target. The Company believes that traditional pharmaceutical discovery is an essentially random process which is costly and inefficient. Advances in biotechnology have led to another method of developing drugs based on the isolation and production of human recombinant proteins. The Company believes that this approach also has limitations because the resulting pharmaceuticals are large molecules that cannot be administered orally, are difficult to manufacture and have applications which are limited to the disease state in which the protein is involved.

Vertex is developing pharmaceutical products using a structure-based drug design approach, which is distinct from the traditional pharmaceutical and biotechnological approaches. By determining and modeling the three dimensional atomic structure of a target protein, the Company intends to rationally design or alter chemical compounds to specifically interact with the targeted protein. The Company believes that structure-based drug design increases the chances for the discovery of multiple lead compounds for selected protein targets, including targets for which traditional drug discovery has met with limited success. Moreover, the Company believes that the structure-based drug design process may accelerate optimization of lead compounds, since modification of a lead compound may be undertaken with knowledge of the relationship between the compound's structure and its desired therapeutic effect, rather than through experimentation

with randomly generated modifications to that compound.

The Company's approach to structure-based design is an integrated approach combining efforts in biology, biophysics and chemistry in a coordinated and simultaneous fashion. To acquire structural information, Vertex applies advanced biophysical and computational tools, including x-ray crystallography, nuclear magnetic resonance spectroscopy and high resolution computer modeling. As structural information is gathered, the Company uses combinatorial, computational and medicinal chemistry to design and produce novel, highly specific small molecule compounds that possess the characteristics required for therapeutic benefit. To arrive at initial lead compounds, the Company may use traditional approaches, such as screening chemical libraries, natural products or combinatorial libraries in addition to using known chemical compounds or may apply direct computational methods (de novo design). Throughout the process, the Company develops biological assays and proprietary animal models, some of which employ the latest advances in genomics techniques, in order to analyze the function of target proteins. Using these tools, the Company optimizes compounds for potency and pharmaceutical properties, including tolerability and pharmacokinetics, and manufacturability. The Company selects clinical candidates from among optimized compounds based on the results of in vitro and in vivo tests designed to predict the compounds' safety and efficacy.

Vertex expects to employ all of its core technologies from the initial phases of a program through the entire discovery process. Information generated through the application of one scientific technique becomes part of the information base from which further advances may be made by Vertex scientists using other development techniques. Using its approach to structure-based drug design, Vertex has demonstrated that it is able to solve atomic structures of target proteins, generate lead compounds that bind to the target in vitro and optimize those compounds to produce drug candidates with desirable pharmaceutical attributes. The Company believes that its integrated structure-based approach to drug discovery and the applicability of this approach to a broad range of protein targets provides the Company with significant competitive advantages in the discovery and development of novel therapeutics for a variety of diseases.

#### CORPORATE STRATEGY

Vertex is concentrating on the discovery and development of drugs for the treatment of viral diseases, multidrug resistance in cancer, hemoglobin disorders, autoimmune diseases, inflammatory diseases and neurodegenerative diseases. The Company's research and development strategy is to identify therapeutic areas in which there is (i) an unmet clinical need, (ii) evidence that interaction with known protein targets will produce a therapeutic effect and (iii) evidence that the protein targets will be appropriate for structural analysis using Vertex's scientific approach. The Company's business strategy is to form collaborations with pharmaceutical companies in programs for which they can provide resources and access to competencies complementary to Vertex's in-house capabilities.

#### PRODUCT DEVELOPMENT AND RESEARCH PROGRAMS

The following are the Company's most advanced product development and research programs.

##### CLINICAL PROGRAMS

###### HIV PROGRAM

###### Overview

Vertex is developing orally deliverable antiviral drugs to treat HIV infection and AIDS. The Company is collaborating with Glaxo Wellcome plc. ("Glaxo Wellcome") and Kissei

Pharmaceutical Co., Ltd. ("Kissei") in the development of its most advanced HIV protease inhibitor, VX-478. Glaxo Wellcome has initiated multi-center Phase III clinical trials to assess the safety and efficacy of VX-478 in HIV-positive individuals. The Phase III clinical trials are intended to support the submission of a New Drug Application ("NDA") for market approval in the United States and equivalent submissions in Europe and other territories. However, there can be no assurance that these clinical trials will result in the submission or approval of an NDA for VX-478.

#### Background

As of June 1996, approximately 548,000 cases of AIDS had been reported to the U.S. Centers for Disease Control and Prevention and the current population of surviving AIDS patients in the U.S. was estimated to be approximately 205,000. The U.S. Centers for Disease Control also estimates that more than 700,000 additional people in the United States are infected with HIV. In 1996, the World Health Organization reported that approximately 1,500,000 AIDS cases had been reported worldwide, but it is estimated that the actual total number of cases was over 8,400,000.

AIDS is caused by infection with HIV. HIV infection causes severe immunosuppression and, eventually, death by attacking and destroying T-cells, which coordinate much of the network of normal immune responses. Progression from HIV infection to AIDS may take many years. Currently, there are two classes of antiviral drugs approved for the treatment of AIDS, reverse transcriptase inhibitors and protease inhibitors. AZT, ddI, ddC and 3TC are drugs that act by inhibiting reverse transcriptase, an enzyme required for viral replication. The clinical utility of each of these drugs is limited by significant side effects and by the development of viral resistance. While certain anti-HIV drugs may be used alone, the clinical utility of these drugs may be improved if these drugs are administered in combination. Such combination therapy can delay the onset of viral resistance. Due to the limitations of AZT and other reverse transcriptase inhibitors, there has been significant interest in developing anti-HIV agents that work by alternative mechanisms such as HIV protease inhibitors, which act by blocking another viral enzyme involved in HIV replication. The FDA has approved for marketing HIV protease inhibitors developed by Merck & Co., Inc., Hoffmann-La Roche, Abbott Laboratories, Inc., and Agouron Pharmaceuticals, Inc.

The Company believes that the market for protease inhibitors is competitive and that a protease inhibitor compound's utility may be evaluated based on several key characteristics. These characteristics include efficacy, convenient dosing regimen, high bioavailability and pharmacokinetics (i.e., high absorption into and sustained presence in the bloodstream), the ability to penetrate the brain and lymph systems from the bloodstream, an acceptable resistance profile, a favorable side effect profile and practical manufacture.

#### Clinical Status

Vertex's HIV and AIDS program is focused on the development of a highly specific protease inhibitor designed to effectively block the replication of HIV and to possess key competitive characteristics. In February 1997, Glaxo Wellcome began a multi-center Phase III clinical trial in the United States, Canada and Europe to evaluate the tolerability, antiviral efficacy, and durability of the antiviral response of VX-478 in combination with AZT and 3TC. The protocol calls for VX-478 to be administered orally at a dose of 1200 mg twice daily in combination with AZT and 3TC. A second group treated with AZT and 3TC will provide a comparison arm for the clinical trial. Approximately 290 HIV-positive adults are expected to enroll in the trial. In addition, the Company anticipates that Glaxo Wellcome will begin in the first half of 1997 a second multi-center Phase III clinical trial in the United States and Europe to assess the safety and efficacy of VX-478 in children. There can be no assurance that clinical trials will result in the submission or approval of an NDA for VX-478 or that trials that have not yet begun will commence. See "Risk Factors -- Uncertainties Related to Clinical Trials" and " -- Manufacturing Uncertainties; Reliance on Third

Party Manufacturers."

In addition to the Phase III trials with AZT and 3TC discussed above, clinical trials of VX-478 alone and in combination with other anti-HIV agents are being conducted. In September 1996, Glaxo Wellcome initiated a 12-week dose-range finding Phase II clinical trial testing the safety and efficacy of VX-478 in combination with AZT and 3TC. Recently, this study has been amended to extend dosing to a minimum of 48 weeks. This study has completed enrollment of approximately 80 participants and the duration of the study has been extended to 24 weeks. In January 1997, Glaxo Wellcome initiated a 24-week Phase II clinical trial of VX-478 in double protease regimens, pairing VX-478 with saquinavir (Roche), indinavir (Merck) or nelfinavir (Agouron). Approximately 48 patients are expected to enroll in the study. Through a collaboration with the ACTG, Glaxo Wellcome, Kissei and Vertex, a 24-week Phase II clinical trial was initiated in February 1997 to evaluate the safety and efficacy of VX-478 as a single agent. A second group treated with VX-478, AZT and 3TC will provide a comparison for the clinical trial. The trial will be conducted in the United States at 10 AIDS Clinical Trial Group ("ACTG") clinical centers and is expected to enroll approximately 84 HIV-positive individuals. In 1997, Glaxo Wellcome plans to initiate a clinical trial to assess the use of VX-478 in combination with 1592U89, a new reverse transcriptase inhibitor in development by Glaxo Wellcome. There can be no assurance, however, that these clinical trials will commence or proceed as currently anticipated. See "Risk Factors -- Uncertainties Related to Clinical Trials" and " -- Dependence on Collaborative Partners."

In January 1997, Glaxo Wellcome reported preliminary results from a 60-patient multi-center Phase I/II clinical trial conducted in the United States and Europe suggesting that VX-478 is well-tolerated and displays potent antiviral activity. At the three highest doses of VX-478 administered as a single agent (900 mg, 1050 mg or 1200 mg twice daily), the median maximal decrease in viral load ranged from 1.69 to 1.89 logs, indicating potent antiviral activity. The results indicated that the antiviral activity of VX-478 was dose-dependent, with increasing doses providing better antiviral effect. The trial also included the administration of VX-478 at a dose of 900 mg (twice daily) in combination with 1592U89 (300 mg twice daily). For the combination, five of seven patients had viral loads below the level of detection (400 copies/ml) at four weeks. The median maximal decrease in viral load in this combination group was 2.08 logs. Adverse events reported in the trial, such as rash, nausea and loose stool/diarrhea, were mild and reversible in most cases. The combination of VX-478 and 1592U89 was well-tolerated, with nausea being the most commonly reported adverse event in this combination. Of the 60 participants in the trial, five withdrew based on adverse events. The data from this trial is preliminary and incomplete. There can be no assurance that these results are predictive of results that will be obtained in any future clinical trials. See "Risk Factors -- Uncertainties Related to Clinical Trials."

In January 1997, Glaxo Wellcome also reported preliminary data from the Phase I/II clinical trial suggesting that resistance did not develop to VX-478 administered as a single agent over the four week time period. The results of the genotype (sequence) and phenotype (drug sensitivity) analyses of virus isolated from patients participating in the Phase I/II study (at doses of 300 mg twice daily; 300 mg three times daily; 900 mg twice daily or 1200 mg twice daily) indicated that resistance did not appear to develop to VX-478, whether at the lower doses or at the higher doses, where potent antiviral activity was observed. There can be no assurance that resistance will not occur when VX-478 is administered for longer periods or in combination with other antiviral agents. See "Risk Factors -- Early Stage of Development; Technological Uncertainty."

In 1995, Kissei completed single dose and multi-dose, placebo-controlled, Phase I clinical trials. Results from these trials reported in May 1996 indicated that VX-478 was well-tolerated, with no significant adverse experiences or laboratory test abnormalities observed at the doses tested. Vertex expects that Kissei will initiate Phase II/III efficacy trials in 1997 in HIV-positive patients that will be designed based on clinical data from Glaxo Wellcome. There can be no assurance, however, that these clinical trials will commence or proceed as currently anticipated. See "Risk Factors -- Uncertainties Related to Clinical Trials," " -- Manufacturing Uncertainties;

Reliance on Third Party Manufacturers" and " -- Dependence on Collaborative Partners."

In collaboration with Glaxo Wellcome, Vertex also is engaged in research to develop additional lead classes of HIV protease inhibitors. This research is focused on designing compounds with resistance profiles distinct from VX-478.

The Company has one issued United States patent, ten United States patent applications pending, and foreign counterparts to some of those applications, that claim classes of chemical compounds and/or their uses which include within their scope the Company's lead drug candidates for treating HIV infection and AIDS. The issued patent and five of the ten United States patent applications, have claims that include VX-478 within their literal scope. Vertex recently received a Notice of Allowance for claims covering the use of VX-478 to treat AIDS-related central nervous system disorders. In addition, the Company has one United States patent application that claims processes for preparing synthetic intermediates useful in the synthesis of a class of compounds that includes VX-478. The Company also has a non-exclusive, worldwide license under certain G.D. Searle & Company ("Searle") patent applications claiming HIV protease inhibitors. See "Risk Factors -- Uncertainty Related to Patents and Proprietary Information."

#### CANCER MULTIDRUG RESISTANCE PROGRAM

##### Overview

Vertex is developing novel compounds to treat and prevent the occurrence of drug resistance associated with the failure of cancer chemotherapy by inhibiting cellular mechanisms believed to be responsible for MDR. Two cellular mechanisms implicated in MDR are P-glycoprotein, or "MDR1," and multidrug resistance associated protein, or "MRP." In June 1996, Vertex commenced a Phase II multi-center clinical trial to assess the safety and efficacy of the co-administration of VX-710 and doxorubicin in patients with liver cancer. In 1997, Vertex plans to initiate a Phase II multi-center clinical trial to assess the safety and efficacy of the co-administration of VX-710 and paclitaxel in patients with breast cancer. Vertex is collaborating with BioChem Therapeutic, Inc. ("BioChem"), a subsidiary of Biochem Pharma (International) Inc., for the development and commercialization of VX-710 in Canada. The Company expects that BioChem will initiate Phase II clinical trials of VX-710 for two additional cancers in Canada in 1997. In April 1996, the Company commenced a Phase I/II dose escalating clinical trial with a second MDR inhibitor, VX-853, an orally-administered compound in a chemical class distinct from intravenously administered VX-710, in combination with doxorubicin in patients with solid tumors.

##### Background

According to the American Cancer Society, there will be an estimated 530,000 new cases of breast, ovarian, lung, liver and colorectal tumors in the United States in 1997. In addition, the American Cancer Society also estimates that there will be an estimated 95,000 new patients each year in the United States afflicted with blood cancers, such as multiple myeloma, acute myeloid leukemia and non-Hodgkin's lymphoma. The Company believes that a significant number of these patients may not be effectively treated by chemotherapy because of MDR.

Multidrug resistance is frequently associated with the failure of chemotherapy. A major contributing factor to MDR is the presence of molecular pumps that function to expel toxins out of the cell. MDR occurs when these pumps, including MDR1 and MRP, expel chemotherapeutic agents from cancer cells, preventing the sustained delivery of potent levels of the chemotherapeutic agents required for therapeutic benefit. As a consequence, such resistant tumor cells cannot be killed efficiently by anticancer drugs such as methotrexate, doxorubicin, vincristine and paclitaxel. MDR1 has been implicated in MDR in a variety of cancers including liver cancer, colon cancer,

pancreatic cancer, chronic myelogenous leukemia and certain lung cancers. MRP was recently identified as another drug efflux pump and is believed responsible for resistance observed in additional tumor types.

No drug has been approved by the FDA specifically for the treatment of MDR, however, several compounds are in advanced clinical studies. Certain agents, such as dex-verapamil and an analog of cyclosporin A, have been shown in preliminary human studies to have some effectiveness in overcoming clinical resistance to certain commonly used chemotherapeutic agents. The Company believes these drugs may have side effects that could limit broad use.

#### Clinical Status

Vertex's lead compound, VX-710, has displayed potent activity in vitro as an inhibitor of MDR for a number of chemotherapeutic agents in a variety of tumor types. In June 1996, Vertex initiated a Phase II multi-center clinical trial to assess the safety and efficacy of the co-administration of VX-710 and doxorubicin in patients with liver cancer. The comparison arm for the study involves the administration of doxorubicin alone. Cross-over from the comparison arm to the study arm is allowed. The clinical trial is expected to enroll up to 70 patients. The Company has recently added additional investigative sites in order to accelerate enrollment in the trial. In 1997, Vertex plans to initiate a Phase II multi-center trial to assess the safety and efficacy of the co-administration of VX-710 and paclitaxel in patients with breast cancer. The primary efficacy endpoints in both trials will be response rate and time to disease progression. In addition, BioChem is planning to initiate Phase II clinical trials of VX-710 in Canada in 1997 in combination with paclitaxel in patients with ovarian cancer and in combination with doxorubicin in patients with soft tissue sarcoma. There can be no assurance, however, that clinical trials will commence or proceed as currently anticipated. See "Risk Factors -- Uncertainties Related to Clinical Trials," " -- Manufacturing Uncertainties; Reliance on Third Party Manufacturers" and " -- Dependence on Collaborative Partners."

In April 1996, a principal investigator for the ongoing Phase I/II trial reported preliminary results for the VX-710/doxorubicin combination. The findings, based on 22 patients receiving intravenous doses of up to 160 mg/m<sup>2</sup>/hr, suggest that the regimen was well-tolerated, with generally mild and reversible side effects at the doses tested. The results also showed that the regimen can be successfully administered to achieve blood levels shown to reverse MDR in vitro and in preclinical studies. The investigator also reported that VX-710 did not appear to alter markedly the clearance or half-life of doxorubicin, which the Company believes will provide future flexibility for dosage. Investigators used an imaging agent, which is ordinarily expelled from the liver by MDR1, as a marker for MDR1 inhibition by VX-710. In this trial, the level of retention of the imaging agent in the liver suggested that VX-710 was blocking the activity of MDR1.

Vertex's research has identified several proprietary compounds, in addition to VX-710, that are able to return drug resistant cells to a state of drug sensitivity in vitro. In November 1995, Vertex scientists reported in vitro MDR inhibition results for VX-853, an orally administered compound in a chemical class distinct from VX-710. The research showed that VX-853 potently blocks MDR mediated by both MDR1 and MRP. In April 1996, the Company commenced a Phase I/II dose-escalating clinical trial of VX-853 in combination with doxorubicin in patients with solid tumors.

The Company has one issued United States patent, five United States patent applications pending and several foreign counterpart applications claiming VX-710 and other compounds for treating multidrug resistance. Vertex recently received a Notice of Allowance for claims covering VX-710 and structurally related compounds. The issued United States patent claims VX-853 and structurally related compounds. The Company may seek orphan drug status for certain indications of its MDR compounds.

## Overview

Vertex is developing VX-366, a drug to treat sickle cell disease and beta thalassemia, two inherited blood disorders for which there currently are a limited number of treatments. The Company is collaborating with Alpha Therapeutic Corporation ("Alpha"), a subsidiary of Green Cross Corporation, and Ravizza Farmaceutici ("Ravizza"), a subsidiary of BASF, in the development of its hemoglobin disorder compounds.

## Background

Sickle cell disease affects one in 375 African-Americans and, to a lesser extent, persons of Eastern Mediterranean, Indian or Saudi Arabian ancestry. There were an estimated 75,000 sickle cell cases and 10,000 beta thalassemia cases in the United States and Europe as of 1994.

Sickle cell disease and beta thalassemia are inherited disorders caused by defects in the gene for adult hemoglobin. These diseases are associated with life-threatening organ damage, cause chronic and recurrent pain and predispose affected individuals to severe infection.

There are currently a limited number of treatments for beta thalassemia and sickle cell disease. Hydroxyurea, an oral compound currently marketed as an anti-cancer agent, has been shown, in a Phase III study conducted by the National Institutes of Health, to improve the symptoms of patients with sickle cell disease. The Company believes, however, that this compound has limitations due to toxic side effects. Other treatments used to combat symptoms of sickle cell disease and beta thalassemia include antibiotics, pain killers and blood transfusions. Several compounds are in clinical development by a number of companies for the treatment of these diseases.

## Clinical Status

Vertex's drug in development for hemoglobin disorders is VX-366. Vertex acquired VX-366, a butyrate compound, in August 1993 under an exclusive license from Children's Hospital Medical Center of Oakland. In June 1996, Ravizza reported results of a four-week Phase II trial in 12 patients with beta thalassemia, which indicated that VX-366 increased participants' levels of hemoglobin F, a form of hemoglobin that has been shown to improve symptoms and extend the life span of individuals with sickle cell disease and beta thalassemia. In September 1995, Vertex entered into a license agreement with Alpha for the development and commercialization of VX-366 in North, Central and South America. There can be no assurance, however, that clinical trials involving VX-366 will proceed or that future trials will commence. See "Risk Factors -- Uncertainties Related to Clinical Studies," " -- Manufacturing Uncertainties; Reliance on Third Party Manufacturers" and " -- Dependence on Collaborative Partners."

Four United States patents have issued, which are licensed exclusively by Vertex from Children's Hospital. Three of these patents claim the use of VX-366 in the treatment of hemoglobin disorders, including sickle cell disease and beta thalassemia. Because Children's Hospital did not foreign file the application corresponding to that reissue application within one year of filing its corresponding United States application, the Company's foreign patent rights may be limited. Vertex has filed three United States patent applications claiming various compounds and their use in the treatment of hemoglobin disorders.



## PRECLINICAL PROGRAMS

## IMPDH PROGRAM

## Overview

Vertex is developing novel, orally deliverable immunosuppressive drugs that it believes could selectively halt the growth of lymphocytes by blocking inosine monophosphate dehydrogenase ("IMPDH"), an enzyme which controls DNA synthesis in lymphocytes. In December 1996, Vertex selected VX-497 as a lead drug development candidate for autoimmune diseases. Vertex currently is conducting preclinical trials of VX-497 and plans to initiate clinical trials of VX-497 in 1998.

## Background

The activation and proliferation of lymphocytes are associated with a variety of autoimmune diseases, including asthma, psoriasis, rheumatoid arthritis and systemic lupus, as well as with transplant rejection. Vertex believes that blocking the enzyme IMPDH with an oral compound designed to specifically bind to the active site of IMPDH may provide a novel way to inhibit the progress of autoimmune diseases. The Company is aware of only one specific inhibitor of IMPDH currently on the market in the United States, Hoffmann-La Roche's mycophenolate mofetil, which is approved for acute kidney transplant rejection. The Company believes that compound-specific side effects of mycophenolate mofetil may limit its use for chronic autoimmune disorders.

## Preclinical Status

Vertex has identified novel lead classes of IMPDH inhibitors. In December 1996, Vertex selected VX-497 as a lead drug development candidate for autoimmune diseases. In laboratory tests and in models of autoimmune disease and transplantation performed to date, VX-497 has been a potent and well-tolerated immunosuppressive agent. Vertex currently is conducting preclinical trials of VX-497. The Company plans to initiate clinical trials of VX-497 in 1998. Vertex intends to evaluate VX-497 for psoriasis, an autoimmune disease of the skin, as the first clinical indication for the compound. There can be no assurance, however, that clinical trials will commence or proceed as currently anticipated. See "Risk Factors -- Early Stages of Development; Technological Uncertainty," " -- Manufacturing Uncertainties; Reliance on Third Party Manufacturers" and " -- Uncertainties Related to Clinical Trials."

The Company has two United States patent applications pending, claiming inhibitors of IMPDH, including VX-497 and related compounds. The Company has another United States patent application pending that claims the crystal structure of IMPDH and the use of that structure to design inhibitors.

## INFLAMMATION PROGRAM

## Overview

Vertex is developing novel drugs to treat acute and chronic inflammatory conditions, including pancreatitis, osteoarthritis and rheumatoid arthritis. The Company is collaborating with Hoechst Marion Roussel ("HMR") in the development of compounds to block interleukin-1 beta converting enzyme ("ICE"), which mediates the production and release of the inflammatory cytokine IL-1 beta, as well as the production of gamma interferon. In February 1997, Vertex selected VX-740 as a lead drug development candidate for inflammatory diseases.

Elevation of IL-1 beta levels has been correlated to a number of acute and chronic inflammatory diseases such as asthma, inflammatory bowel disease, osteoarthritis, pancreatitis and rheumatoid arthritis. There are approximately 2,500,000 cases of rheumatoid arthritis in the United States alone. ICE was first characterized in late 1991 and represents a novel target for anti-inflammatory drug discovery. Although several companies are pursuing ICE as a drug target, Vertex is not aware of any company with an ICE-inhibiting compound in clinical development, and there currently are no IL-1 beta inhibitors approved for marketing.

#### Preclinical Status

Vertex and HMR have designed potential small molecule inhibitors of ICE that could be used for the treatment of both acute and chronic inflammatory disorders such as asthma, inflammatory bowel disease, osteoarthritis, pancreatitis and rheumatoid arthritis. In February 1997, Vertex selected VX-740 as a lead drug development candidate for inflammatory diseases.

Vertex scientists recently discovered that ICE plays a key role in the production of gamma interferon, a key immunoregulator that modulates antigen presentation, T-cell activation, and cell adhesion. This research was published in the January 10, 1997 issue of the journal Science. Based on the discovery of a new role for ICE in the production of gamma interferon, Vertex plans to investigate ICE inhibitors for additional therapeutic uses such as in metastatic cancer, diabetes and sepsis. See "Risk Factors -- Early Stages of Development; Technological Uncertainty," " -- Manufacturing Uncertainties; Reliance on Third Party Manufacturers" and " -- Uncertainties Related to Clinical Trials."

The Company has fourteen patent applications pending in the United States and several foreign counterpart patent applications claiming inhibitors of ICE. Vertex recently received a Notice of Allowance in one of those applications. The Company has three patent applications pending in the United States and several foreign counterpart applications claiming the crystal structure of ICE and derivatives thereof and various uses of those structures.

#### RESEARCH PROGRAMS

##### Neurophilins

Vertex has designed novel, orally deliverable, small molecule compounds that have the potential to be developed as drugs to treat neurodegenerative diseases, including stroke, peripheral neuropathies and Parkinson's disease and Alzheimer's disease. Vertex has conducted laboratory experiments the results of which suggest that certain of its compounds stimulate nerve growth. In 1996, Vertex reported results in a rat model of peripheral nerve injury. The neurophilin compound accelerated the onset of foot movement and walking compared to the control. In addition, the compound produced a 50 percent increase in the average size of nerve cells in the injured area as compared to the control animals. Vertex has identified several promising lead compounds and plans to test those compounds in additional models of nerve growth.

The Company has five United States patent applications claiming the use of certain of its immunosuppressive compounds and certain of its multidrug resistance compounds for nerve growth applications. The Company also has one issued United States patent and nine United States patent applications pending that claim compounds useful in nerve growth applications.

## Caspases (Apoptosis)

The goal of Vertex's caspases program is to discover and develop drugs useful for treating neurodegenerative disorders such as Alzheimer's disease and Parkinson's disease as well as for the prevention of tissue damage resulting from myocardial and cerebral ischemia.

Vertex is conducting research to design novel drugs for apoptosis (programmed cell death) for neurodegenerative diseases and other neurodegenerative conditions. This drug discovery effort is based on the Company's knowledge of ICE and its homologues, the caspases. Vertex has gained a detailed understanding of apoptotic pathways using biological, genomic, and structural data from ICE homologues. Vertex has solved the X-ray structure of CPP32, a caspase believed to be important in neuronal apoptosis, and is using structural information to design small molecule lead compounds that selectively block CPP32 and other caspases.

The Company has one United States patent application claiming a protein involved in apoptosis.

## Hepatitis C Protease

The Company is conducting discovery research to design orally deliverable drugs to inhibit hepatitis C protease, an enzyme generally believed to be essential for replication of the hepatitis C virus ("HCV"). Discovered in 1989, HCV causes chronic inflammation in the liver. In a majority of patients, HCV establishes a chronic infection that can persist for decades and eventually lead to cirrhosis, liver failure and liver cancer. HCV infection represents a significant medical problem worldwide for which there is inadequate or no therapy for a majority of patients. Sources at the U.S. Centers for Disease Control and Prevention recently estimated that approximately 3.9 million Americans, or more than one percent of the population, may be infected with HCV. Currently, there is no vaccine available to prevent hepatitis C infection. In addition, the only drug approved for the treatment of hepatitis C, interferon alpha, provides long-term therapeutic benefit to less than 25 percent of patients treated.

In 1996, Vertex solved the structure of the hepatitis C protease, using X-ray crystallography. Vertex is utilizing a variety of advanced techniques, as well as its experience with HIV protease inhibitors, to design inhibitors of HCV protease enzyme.

Vertex has one United States patent application pending claiming inhibitors of HCV protease. Vertex also has one United States patent application pending claiming the crystal structure of HCV protease and the use of that structure to design inhibitors. Vertex has an additional United States patent application claiming methods of identifying HCV protease inhibitors.

## MAP Kinases

Vertex is conducting research to design novel anti-inflammatory drugs based on small molecule inhibitors of MAP kinases. MAP kinases regulate both interleukin-1 and tumor necrosis factor, hormones involved in inflammation and programmed cell death. In 1996, Vertex solved the structure of p38 MAP kinase using X-ray crystallography. Vertex is conducting research to solve additional related MAP kinases. Together with the structural information now available, Vertex is using structure-directed high throughput screening to identify novel lead inhibitors of p38 MAP kinase.

Vertex has one United States patent application pending claiming inhibitors of p38 MAP Kinase.

Vertex has entered into corporate collaborations with pharmaceutical companies that provide financial and other resources, including capabilities in research, development and sales and marketing, to support the Company's research and development programs. To date, the Company has entered into the following major corporate collaborations.

Glaxo Wellcome plc.

Vertex and Glaxo Wellcome are collaborating on the development of Vertex's HIV protease inhibitors. Under the collaborative agreement, which commenced in December 1993, Glaxo Wellcome is obligated to pay Vertex up to \$42.0 million, comprised of a \$15.0 million initial license payment paid in December 1993, \$14.0 million of product research funding over five years and \$13.0 million of development and commercialization milestone payments for an initial drug candidate. From the inception of the agreement in December 1993 through December 31, 1996, Vertex has recognized as revenue \$25.0 million. Glaxo Wellcome is also obligated to pay to Vertex additional development and commercialization milestone payments for subsequent drug candidates. In addition, Glaxo Wellcome is required to bear the costs of development in its territory under the collaboration. Glaxo Wellcome has exclusive rights to develop and commercialize Vertex HIV protease inhibitors in all parts of the world except the Far East and will pay Vertex a royalty on sales. Vertex has retained certain bulk drug manufacturing rights and certain co-promotion rights in the territories licensed to Glaxo Wellcome. See " -- HIV Program."

Glaxo Wellcome has the right to terminate the research collaboration under its agreement with the Company without cause upon twelve months' notice given at any time and has the right to terminate the license arrangements under its agreement with the Company without cause upon twelve months' notice, provided such notice is not given before the research collaboration has been terminated. Termination by Glaxo Wellcome of the research collaboration under its agreement with the Company will relieve Glaxo Wellcome of its obligation to make further research support payments under the agreement. Termination by Glaxo Wellcome of the license arrangements under the agreement will relieve Glaxo Wellcome of its obligation to make further commercialization and development milestone and royalty payments, and will end any license granted to Glaxo Wellcome by Vertex thereunder, and could have a material adverse effect on the Company's business and result of operations. See "Risk Factors -- Dependence on Collaborative Partners."

In June 1996, Vertex and Glaxo Wellcome obtained a non-exclusive, worldwide license under certain Searle patent applications claiming HIV protease inhibitors to permit Vertex and Glaxo Wellcome to develop, manufacture and market VX-478 free of the risk of intellectual property claims by Searle. Vertex and Glaxo Wellcome paid Searle \$15.0 million and \$10.0 million, respectively, for the license. In addition, the terms of the license require Vertex to pay Searle a royalty on sales. In connection with this transaction, Glaxo Wellcome purchased 151,792 shares of the Company's Common Stock at a price of \$32.94 per share, with net proceeds to the Company of approximately \$5.0 million.

Kissei Pharmaceutical Co., Ltd.

Vertex and Kissei are collaborating on the development of Vertex's VX-478 HIV protease inhibitor. Under the collaborative agreement, which commenced in April 1993, Kissei is obligated to pay to Vertex up to \$20.0 million, comprised of \$9.8 million of product research funding over three years, \$7.0 million of development and commercialization milestone payments and a \$3.2 million equity investment. From the inception of the agreement in April 1993 through December 31, 1996, \$17.8 million has been received, including \$14.6 million recognized as revenue and \$3.2 million as an equity investment. The Company has received the full amount of research funding specified under the agreement. Kissei has exclusive rights to develop and

commercialize VX-478 in Japan, the People's Republic of China and several other countries in the Far East and will pay Vertex a royalty on sales. Vertex will manufacture bulk product for Kissei. See " -- HIV Program."

#### Hoechst Marion Roussel

Vertex and HMR are collaborating on the development of ICE inhibitors as anti-inflammatory agents. Under the collaborative agreement, which commenced in September 1993, HMR is obligated to pay to Vertex up to \$30.5 million, comprised of \$18.5 million of product research funding over five years and \$12.0 million of development and commercialization milestone payments. From the inception of the agreement in September 1993 through December 31, 1996, \$14.5 million has been recognized as revenue. HMR has exclusive rights to develop and market drugs resulting from the collaborative effort in Europe, Africa and the Middle East, and Vertex has exclusive development and marketing rights in the rest of the world, except the Far East, where Vertex shares those rights with HMR. HMR is obligated to pay a royalty to Vertex on any sales made in Europe, and Vertex is obligated to pay a royalty to HMR on any sales made in the United States or the rest of the Americas. Each party will have the option to co-promote products in the other party's exclusive territory. Vertex and HMR will each have rights to develop and market the drugs in Far Eastern countries including Japan.

HMR has the right to terminate the agreement at any time without cause upon twelve months' notice. For a period of one year after any such termination, HMR retains the right to select one or more compounds for development and to license such compound or compounds from Vertex, provided HMR resumes research funding and commercialization milestone payments and makes all such payments that would otherwise have been due but for such termination. See " -- Inflammation Program."

#### BioChem Therapeutic, Inc.

The Company and BioChem are collaborating on the development and commercialization of VX-710, the Company's lead compound in its cancer multidrug resistance program. Under the collaborative agreement, which commenced in May 1996, BioChem is obligated to pay the Company up to \$4.0 million comprised of an initial license payment of \$500,000 and development and commercialization milestone payments. BioChem also is obligated to bear the costs of development of VX-710 in Canada. BioChem has exclusive rights to develop and commercialize VX-710 in Canada. The Company will supply BioChem's requirements of bulk and finished forms of VX-710. BioChem will make payments to the Company for those materials based on sales of products by BioChem, which will cover Vertex's cost of supplying materials and will provide a profit to Vertex.

BioChem has the right to terminate the agreement without cause upon six months' notice at any time after May 8, 1997. Termination will relieve BioChem of any further payment obligations and will end any license granted to BioChem by Vertex under the agreement. See " -- Cancer Multidrug Resistance Program."

#### Alpha Therapeutic Corporation

Vertex and Alpha are collaborating on the development and commercialization of VX-366 for the treatment of sickle cell disease and beta thalassemia. Under the collaborative agreement, which commenced in October 1995, Alpha has agreed to pay Vertex up to \$5.0 million comprised of an initial license payment and development and commercialization milestone payments. From the inception of the agreement in October 1995 through December 31, 1996, \$500,000 has been recognized as revenue. In addition, Alpha is obligated to pay the costs of development of VX-366 under the collaboration. Alpha has exclusive rights to develop and commercialize VX-366 in

North, Central and South America. Vertex retains rights in the rest of the world and retains all manufacturing rights worldwide. Alpha will pay Vertex a royalty based on commercial product sales and will purchase from Vertex its requirements for drug product.

Alpha has the right to terminate the agreement without cause upon six months' notice at any time. Termination will relieve Alpha of any further payment obligations under the agreement and will end any license granted to Alpha by Vertex thereunder. See " -- Hemoglobin Disorders Program."

Ravizza Farmaceutici S.p.A.

Vertex and Ravizza are collaborating to conduct clinical trials with VX-366 for beta thalassemia and sickle cell disease. Under the collaboration, which commenced in September 1994, Vertex and Ravizza will share data generated in their respective clinical trial programs. Ravizza has completed a Phase II clinical trial of VX-366 in Italy in patients with beta thalassemia. In addition, the arrangement creates a framework for negotiation of an agreement for clinical development and commercialization of VX-366 in Europe. There can be no assurance, however, that the parties will enter into any such agreement. See " -- Hemoglobin Disorders Program."

ALTUS BIOLOGICS INC.

Altus Biologics Inc. ("Altus") is a subsidiary of Vertex established in January 1993 to develop, manufacture and sell a class of industrial catalysts based on a novel and proprietary technology for stabilizing proteins. Altus' initial products use the Company's CLEC(R) technology to produce cross-linked enzyme crystals.

Although enzymes are among nature's most efficient catalysts, their large-scale commercial use has been limited by their instability and general incompatibility with many industrial chemical processes. As a result of experiments conducted by Altus and several commercial partners and prospective customers, the Company believes that CLEC products have properties that overcome many of these limitations and make them superior to conventional catalysts and enzymes in certain commercial and industrial processes. The Company believes that CLEC products can be used as catalysts in the manufacture of pharmaceuticals, fine chemicals, foods and sweeteners, among other things.

Since mid-1994, Altus has launched nine commercial catalyst products in two product families: ChiroCLEC(TM), for the preparation of optically pure pharmaceuticals and specialty chemicals, and PeptiCLEC(TM), for use in peptide coupling reactions. Altus expects to launch additional products in 1997. Approximately 215 companies worldwide have purchased CLEC products for feasibility testing. Altus recently entered into a research and development collaboration with Ciba-Geigy Limited for the development of CLEC technology for commercial use in detergents.

Altus is conducting research and development aimed at expanding the uses of its CLEC technology to such applications as nerve gas detoxification, detergenting and anti-oxidants for cosmetics. Some of this research is supported by grants from U.S. government agencies including the National Institutes of Health, National Science Foundation and the Department of Defense.

The Company has ten United States patent applications and several foreign counterpart applications and patents relating to its CLEC technology. The Company recently received a Notice of Allowance in one of these applications.

The Company has rights in certain patents and pending patent applications that relate to compounds it is developing and methods of using such compounds. The Company actively seeks, when appropriate, protection for its products and proprietary information by means of United States and foreign patents, trademarks and contractual arrangements. In addition, the Company relies upon trade secrets and contractual arrangements to protect certain of its proprietary information and products.

As of February 20, 1997, the Company had a total of six United States patents and 63 United States pending patent applications. The Company also has an exclusive license under four United States patents, one of which is subject to a reissue application and a non-exclusive, worldwide license under certain Searle patent applications claiming HIV protease inhibitors. Three of the licensed patents and the reissue application claim the use of compounds, including VX-366, for treating hemoglobin disorders, including sickle cell disease and beta thalassemia. The Company has one issued United States patent and ten United States patent applications claiming antiviral compounds, and/or their uses, for treating HIV infection and AIDS. The issued patent and five of the ten applications have claims that include VX-478, the Company's lead drug candidate, within their literal scope. Vertex recently received a Notice of Allowance for claims covering the use of VX-478 to treat AIDS-related central nervous system disorders. Another of the Company's United States patent applications claims processes for preparing synthetic intermediates useful in the synthesis of a class of compounds that includes VX-478. The Company's non-exclusive, worldwide license permits Vertex to develop, manufacture and market VX-478 free of intellectual property claims by Searle. The Company has one issued United States patent and five United States patent applications claiming VX-710 and other compounds for treating multidrug resistance. Vertex recently received a Notice of Allowance for claims covering VX-710 and structurally related compounds. The issued patent claims VX-853 and structurally related compounds. The Company has two United States patent applications pending, claiming inhibitors of IMPDH, including VX-497 and related compounds. The Company has another United States patent application pending that claims the crystal structure of IMPDH and the use of that structure to design inhibitors. The Company has fourteen United States patent applications pending claiming inhibitors of ICE. Vertex recently received a Notice of Allowance in one of those applications. The Company has three patent applications pending in the United States claiming the crystal structure of ICE and derivatives thereof and various uses of those structures. The Company has five United States patent applications pending claiming the use of certain of its immunosuppressive compounds and certain of its multidrug resistance compounds for nerve growth applications. The Company also has one issued United States patent and nine patent applications pending that claim compounds useful in nerve growth application. The Company has three United States patents and four United States patent applications claiming specific immunosuppressive compounds. Vertex recently received a Notice of Allowance in two of those four applications. The Company has one United States patent application claiming a protein involved in apoptosis. The Company has one United States patent application pending claiming inhibitors of p38 MAP kinase. The Company also has one United States patent application pending claiming inhibitors of HCV protease. The Company has one United States patent application pending claiming the crystal structure of HCV protease and the use of that structure to design inhibitors. The Company has ten United States patent applications claiming CLEC technology. The Company recently received a Notice of Allowance in one of these applications. The Company has one United States patent claiming a novel device useful in pharmaceutical research. The Company also has filed international and foreign counterparts based on several of its United States patents and patent applications.

There can be no assurance that any patents will issue from any of the Company's patent applications or, even if patents issue or have issued, that the claims thereof will provide the Company with any significant protection against competitive products or otherwise be valuable commercially. Legal standards relating to the validity of patents and the proper scope of their

claims in the biopharmaceutical field are still evolving, and there is no consistent policy regarding the breadth of claims allowed in biopharmaceutical patents. No assurance can be given as to the Company's ability to avoid infringing, and thus having to negotiate a license under, any patents issued to others, or that a license to such patents would be available on commercially acceptable terms, if at all. Further, there can be no assurance that any patents issued to or licensed by the Company will not be infringed by the products of others, which may require the Company to engage in patent infringement litigation. In addition to being a party to patent infringement litigation, the Company could be required to participate in interference proceedings declared by the United States Patent and Trademark Office. Defense or prosecution of patent infringement litigation, as well as participation in interference proceedings, can be expensive and time consuming, even in those instances in which the outcome is favorable to the Company. If the outcome of any such litigation or proceeding were adverse, the Company could be subject to significant liabilities to third parties, could be required to obtain licenses from third parties or could be required to cease sales of the affected products, any of which could have a material adverse effect on the Company. See "Risk Factors -- Uncertainty Related to Patents and Proprietary Information."

The Company has licensed on an exclusive basis four United States patents and one United States issue application from Children's Hospital. Three of these patents and the reissue application claim the use of compounds, including VX-366, in the treatment of hemoglobin disorders, including sickle cell disease and beta thalassemia. Because Children's Hospital did not foreign file the application corresponding to the reissue application within one year of filing its corresponding United States application, the Company's foreign patent rights may be limited. In addition, there can be no assurance that others will not develop independently substantially equivalent technology, obtain access to the Company's know-how or be issued patents which may prevent the sale of Company products or require licensing and the payment of significant fees or royalties by the Company in order for it to carry on its business. Furthermore, there can be no assurance that any such license will be available.

Much of the Company's technology and many of its processes are dependent upon the knowledge, experience and skills of key scientific and technical personnel. To protect its rights to its proprietary know-how and technology, the Company requires all employees, consultants, advisors and collaborators to enter into confidentiality agreements that prohibit the disclosure of confidential information to anyone outside the Company. These agreements require disclosure and assignment to the Company of ideas, developments, discoveries and inventions made by employees, consultants, advisors and collaborators. There can be no assurance that these agreements will effectively prevent disclosure of the Company's confidential information or will provide meaningful protection for the Company's confidential information if there is unauthorized use or disclosure. Furthermore, in the absence of patent protection, the Company's business may be adversely affected by competitors who independently develop substantially equivalent technology. See " -- Corporate Collaborations," and "Risk Factors -- Dependence on Collaborative Partners" and " -- Uncertainty Relating to Patents and Proprietary Information."

#### MANUFACTURING

The Company relies on third party manufacturers to produce its compounds for preclinical and clinical purposes and may do so for commercial production of any compounds that are approved for marketing. The Company has established a quality assurance program, including a set of standard operating procedures, intended to ensure that third party manufacturers under contract produce the Company's compounds in accordance with the FDA's current Good Manufacturing Practices ("cGMP") and other applicable regulations. See " -- Government Regulation."

The Company believes that all of its existing compounds can be produced using established manufacturing methods, primarily through standard techniques of pharmaceutical synthesis. The



Company currently does not have the capacity to manufacture its potential products, is dependent on third party manufacturers or collaborative partners for the production of its compounds for preclinical research and clinical trial purposes and expects to be dependent on such manufacturers or collaborative partners for some or all commercial production of any of its compounds that are approved for marketing. The Company believes that it will be able to continue to negotiate such arrangements on commercially reasonable terms and that it will not be necessary for it to develop internal manufacturing capability in order to successfully commercialize its products. In the event that the Company is unable to obtain contract manufacturing, or obtain such manufacturing on commercially reasonable terms, it may not be able to commercialize its products as planned. The Company's objective is to maintain flexibility in deciding whether to develop internal manufacturing capabilities for certain of its potential products. The Company has no experience in manufacturing pharmaceutical or other products or in conducting manufacturing testing programs required to obtain FDA and other regulatory approvals, and there can be no assurance that the Company will develop such capabilities successfully.

Since the Company's potential products are at an early stage of development, the Company will need to improve or modify its existing manufacturing processes and capabilities to produce commercial quantities of any drug product economically. The Company cannot quantify the time or expense that may ultimately be required to improve or modify its existing process technologies, but it is possible that such time or expense could be substantial.

The production of Vertex's compounds is based in part on technology that the Company believes to be proprietary. Vertex may license this technology to contract manufacturers to enable them to manufacture compounds for the Company. There can be no assurance that such manufacturers will abide by any limitations or confidentiality restrictions in licenses with Vertex. In addition, any such manufacturer may develop process technology related to the manufacture of Vertex's compounds that such manufacturer owns either independently or jointly with the Company. This would increase the Company's reliance on such manufacturer or require the Company to obtain a license from such manufacturer in order to have its products manufactured. There can be no assurance that any such license would be available on terms acceptable to the Company, if at all.

Some of the Company's current corporate partners have certain manufacturing rights with respect to the Company's products under development, and there can be no assurance that such corporate partners' rights will not impede the Company's ability to conduct the development programs and commercialize any resulting products in accordance with the schedules and in the manner currently contemplated by the Company. See "Risk Factors -- Manufacturing Uncertainties; Reliance on Third Party Manufacturers."

#### COMPETITION

The Company is engaged in pharmaceutical fields characterized by extensive research efforts, rapid technological progress and intense competition. There are many public and private companies, including pharmaceutical companies, chemical companies and biotechnology companies, engaged in developing products for the human therapeutic applications targeted by Vertex. Further, the Company believes that interest in the application of structure-based drug design and related technologies may continue and may accelerate as the technologies become more widely understood. The Company is aware of efforts by others to develop products in each of the areas in which the Company has products in development. For example, Merck & Co., Inc., Abbott Laboratories, Inc., Hoffmann-La Roche, and Agouron Pharmaceuticals, Inc. have HIV protease inhibitors which have been approved by the U.S. Food and Drug Administration ("FDA") for marketing. The Company is also aware of other companies that have HIV protease inhibitors in development. There also are a number of competitors that have products under development for the treatment of MDR in cancer and for the treatment of hemoglobin disorders. In order for the Company to compete successfully

in these areas, it must demonstrate improved safety, efficacy, ease of manufacturing and market acceptance over its competitors, who have received regulatory approval and are currently marketing. Furthermore, academic institutions, governmental agencies and other public and private research organizations are conducting research to develop technologies and products that may compete with those under development by the Company. In addition, other technologies are, or may in the future become, the basis for competing products. There can be no assurance that the Company's competitors will not succeed in developing technologies and products that are more effective than any being developed by the Company or that would render the Company's technology and products obsolete or noncompetitive. In addition, there can be no assurance that the Company's products in development will be able to compete effectively with products which are currently on the market.

Many of the Company's competitors have substantially greater financial, technical and human resources than those of the Company. In addition, many of the Company's competitors have significantly greater experience than the Company in conducting preclinical testing and human clinical trials of new pharmaceutical products, and in obtaining FDA and other regulatory approvals of products. Accordingly, certain of the Company's competitors may succeed in obtaining regulatory approval for products more rapidly than the Company. If the Company obtains regulatory approval and commences commercial sales of its products, it will also compete with respect to manufacturing efficiency and sales and marketing capabilities, areas in which it currently has no experience. See "Risk Factors -- Rapid Technological Change and Competition."

#### PHARMACEUTICAL PRICING AND REIMBURSEMENT

The Company's ability to commercialize its products successfully will depend in part on the extent to which appropriate reimbursement levels for the cost of such products and related treatment are obtained from government authorities, private health insurers and other organizations, such as health maintenance organizations ("HMOs"). Third party payors and government authorities are continuing efforts to contain or reduce the cost of health care. For example, in certain foreign markets, pricing and/or profitability of prescription pharmaceuticals are subject to government control. There can be no assurance that similar controls will not be implemented in the United States. Also, the trend toward managed health care in the United States and the concurrent growth of organizations such as HMOs, which could control or significantly influence the purchase of health care services and products, may result in lower prices for the Company's products. The cost containment measures that health care providers and third party payors are instituting and any proposed or future health care reform measures, including any reductions in Government reimbursement programs such as Medicaid and Medicare, could affect the Company's ability to sell its products and may have a material adverse effect on the Company.

The success of the Company's products in the United States and other significant markets will depend, in part, upon the extent to which a consumer will be able to obtain reimbursement for the cost of such products from government health administration authorities, third-party payors and other organizations. Significant uncertainty exists as to the reimbursement status of newly approved therapeutic products. Even if a product is approved for marketing, there can be no assurance that adequate reimbursement will be available. The Company is unable to predict what additional legislation or regulation relating to the health care industry or third-party coverage and reimbursement may be enacted in the future or what effect the legislation or regulation would have on the Company's business. Failure to obtain reimbursement could have a material adverse effect on the Company.

#### GOVERNMENT REGULATION

The Company's development, manufacture and potential sale of therapeutics are subject to extensive regulation by United States and foreign governmental authorities. In particular,

pharmaceutical products are subject to rigorous preclinical and clinical testing and to other approval requirements by the FDA in the United States under the Food, Drug and Cosmetic Act and by comparable agencies in most foreign countries.

As an initial step in the FDA regulatory approval process, preclinical studies are typically conducted in animals to identify potential safety problems. For certain diseases, animal models exist that are believed to be predictive of human efficacy. For such diseases, a drug candidate is tested in an animal model. The results of the studies are submitted to the FDA as a part of the Investigational New Drug application ("IND"), which is filed to comply with FDA regulations prior to commencement of human clinical testing. For other diseases for which no appropriately predictive animal model exists, no such results can be filed. For several of the Company's drug candidates, no appropriately predictive model exists. As a result, no in vivo evidence of efficacy would be available until such compounds progress to human clinical trials.

Clinical trials are typically conducted in three sequential phases, although the phases may overlap. In Phase I, which frequently begins with the initial introduction of the drug into healthy human subjects prior to introduction into patients, the compound will be tested for safety, dosage tolerance, absorption, bioavailability, biodistribution, metabolism, excretion, clinical pharmacology and, if possible, for early information on effectiveness. Phase II typically involves studies in a small sample of the intended patient population to assess the efficacy of the drug for a specific indication, to determine dose tolerance and the optimal dose range and to gather additional information relating to safety and potential adverse effects. Phase III trials are undertaken to further evaluate clinical safety and efficacy in an expanded patient population at geographically dispersed study sites, to determine the overall risk-benefit ratio of the drug and to provide an adequate basis for physician labeling. Each trial is conducted in accordance with certain standards under protocols that detail the objectives of the study, the parameters to be used to monitor safety and the efficacy criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND. Further, each clinical study must be evaluated by an independent Institutional Review Board ("IRB") at the institution at which the study will be conducted. The IRB will consider, among other things, ethical factors, the safety of human subjects and the possible liability of the institution.

Data from preclinical testing and clinical trials are submitted to the FDA in a New Drug Application ("NDA") for marketing approval. The process of completing clinical testing and obtaining FDA approval for a new drug is likely to take a number of years and require the expenditure of substantial resources. Preparing an NDA involves considerable data collection, verification, analysis and expense, and there can be no assurance that approval will be granted on a timely basis, if at all. The approval process is affected by a number of factors, including the severity of the disease, the availability of alternative treatments and the risks and benefits demonstrated in clinical trials. The FDA may deny an NDA if applicable regulatory criteria are not satisfied or may require additional testing or information. Among the conditions for marketing approval is the requirement that the prospective manufacturer's quality control and manufacturing procedures conform to the FDA's cGMP regulations, which must be followed at all times. In complying with standards set forth in these regulations, manufacturers must continue to expend time, monies and effort in the area of production and quality control to ensure full technical compliance. Manufacturing establishments, both foreign and domestic, also are subject to inspections by or under the authority of the FDA and by or under the authority of other federal, state or local agencies.

Even after initial FDA approval has been obtained, further studies, including post-marketing studies, may be required to provide additional data on safety and will be required to gain approval for the use of a product as a treatment for clinical indications other than those for which the product was initially tested. Also, the FDA will require post-marketing reporting to monitor the side effects of the drug. Results of post-marketing programs may limit or expand further marketing of the products. Further, if there are any modifications to the drug, including changes in indication,

manufacturing process, labeling or manufacturing facilities, an NDA supplement may be required to be submitted to the FDA.

The Orphan Drug Act provides incentives to drug manufacturers to develop and manufacture drugs for the treatment of diseases or conditions that affect fewer than 200,000 individuals in the United States. Orphan drug status can also be sought for diseases or conditions that affect more than 200,000 individuals in the United States if the sponsor does not realistically anticipate its product becoming profitable from sales in the United States. Under the Orphan Drug Act, a manufacturer of a designated orphan product can seek tax benefits, and the holder of the first FDA approval of a designated orphan product will be granted a seven-year period of marketing exclusivity for that product for the orphan indication. While the marketing exclusivity of an orphan drug would prevent other sponsors from obtaining approval of the same compound for the same indication, it would not prevent other types of drugs from being approved for the same use. The Company has obtained orphan drug status for VX-366 for the treatment of beta thalassemia and sickle cell disease and, in the future, may apply for orphan drug status for certain indications of MDR in cancer.

Under the Drug Price Competition and Patent Term Restoration Act of 1984, a sponsor may be granted marketing exclusivity for a period of time following FDA approval of certain drug applications if FDA approval is received before the expiration of the patent's original term. This marketing exclusivity would prevent a third party from obtaining FDA approval for a similar or identical drug through an Abbreviated New Drug Application ("ANDA"), which is the application form typically used by manufacturers seeking approval of a generic drug. The statute also allows a patent owner to extend the term of the patent for a period equal to one-half the period of time elapsed between the filing of an IND and the filing of the corresponding NDA plus the period of time between the filing of the NDA and FDA approval. The Company intends to seek the benefits of this statute, but there can be no assurance that the Company will be able to obtain any such benefits.

Whether or not FDA approval has been obtained, approval of a drug product by regulatory authorities in foreign countries must be obtained prior to the commencement of commercial sales of the product in such countries. Historically, the requirements governing the conduct of clinical trials and product approvals, and the time required for approval, have varied widely from country to country.

In addition to the statutes and regulations described above, the Company is also subject to regulation under the Occupational Safety and Health Act, the Environmental Protection Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act and other present and potential future federal, state and local regulations. See "Risk Factors -- Extensive Government Regulation."

#### HUMAN RESOURCES

As of December 31, 1996, Vertex had 178 full-time employees, including 136 in research and development, 23 in laboratory support services and 19 in general and administrative functions, and three part-time employees. The Company's scientific staff members (58 of whom hold Ph.D. and/or M.D. degrees) have diversified experience and expertise in molecular and cell biology, biochemistry, animal pharmacology, synthetic organic chemistry, protein x-ray crystallography, protein nuclear magnetic resonance spectroscopy, computational chemistry, biophysical chemistry, medicinal chemistry, clinical pharmacology and clinical medicine. In addition, the Company's Altus subsidiary had 19 full-time employees as of December 31, 1996. The Company's employees are not covered by a collective bargaining agreement, and the Company considers its relations with its employees to be good.

## EXECUTIVE OFFICERS

The names, ages and positions held by the executive officers of the Company are as follows:

Name	Age	Position
- - - - -	---	-----
Joshua S. Boger, Ph.D.....	45	Director, President and Chief Executive Officer
Richard H. Aldrich.....	42	Senior Vice President and Chief Business Officer
Vicki L. Sato, Ph.D.....	48	Senior Vice President of Research and Development and Chief Scientific Officer; Chair of the Scientific Advisory Board
Iain P. M. Buchanan.....	43	Vice President of European Operations; Managing Director of Vertex Pharmaceuticals (Europe) Limited
Thomas G. Auchincloss, Jr.	35	Vice President of Finance and Treasurer

All executive officers are elected by the Board of Directors to serve in their respective capacities until their successors are elected and qualified or until their earlier resignation or removal.

Dr. Boger is a founder of the Company and was its President and Chief Scientific Officer from its inception in 1989 until May 1992, when he became President and Chief Executive Officer. Dr. Boger has been a director since the Company's inception. Prior to founding the Company in 1989, Dr. Boger held the position of Senior Director of Basic Chemistry at Merck Sharp & Dohme Research Laboratories in Rahway, New Jersey, where he headed both the Department of Medicinal Chemistry of Immunology & Inflammation and the Department of Biophysical Chemistry. Dr. Boger is also a Director of Millennium Pharmaceuticals, Inc. Dr. Boger holds a B.A. in chemistry and philosophy from Wesleyan University and M.S. and Ph.D. degrees in chemistry from Harvard University.

Mr. Aldrich served as Vice President of Business Development of the Company from June 1989 to May 1992, when he became Vice President and Chief Business Officer. In December 1993, Mr. Aldrich was promoted to Senior Vice President and Chief Business Officer. He joined Vertex from Integrated Genetics, where he headed that company's business development group. Previously, he served as Program Executive at Biogen, Inc., where he coordinated worldwide commercial development of several biopharmaceuticals, and as Licensing Manager at Biogen S.A. in Geneva, Switzerland, where he managed European and Far Eastern licensing. Mr. Aldrich previously worked at the Boston Consulting Group, an international management consulting firm. Mr. Aldrich received a B.S. degree from Boston College and an M.B.A. from the Amos Tuck School of Business, Dartmouth College.

Dr. Sato joined Vertex in September 1992 as Vice President of Research and was appointed Senior Vice President of Research and Development in September 1994. Previously, she was Vice President, Research and a member of the Scientific Board of Biogen, Inc. As research head at Biogen, she directed research programs in the fields of inflammation, immunology, AIDS therapy and cardiovascular therapy from early research into advanced product development. Dr. Sato received an A.B. in biology from Radcliffe College and A.M. and Ph.D. degrees from Harvard University. Following postdoctoral work in chemistry and immunology at the University of

California at Berkeley and Stanford Medical School, she was appointed to the faculty of Harvard University in the Department of Biology.

Mr. Buchanan joined the Company in April 1994 from Cilag AG, a subsidiary of Johnson & Johnson based in Zug, Switzerland, where he served as its Regional Licensing Director since 1987. He previously held the position of Marketing Director of Biogen, Inc. in Switzerland. Prior to Biogen, Mr. Buchanan served in Product Management at Merck Sharp & Dohme (UK) Limited. Mr. Buchanan holds a B.Sc. from the University of St. Andrews, Scotland.

Mr. Auchincloss joined the Company in October 1994 after serving as an investment banker at Bear, Stearns & Co. Inc. since 1988, most recently as Associate Director of the Corporate Finance Department. Prior to Bear Stearns, Mr. Auchincloss was a financial analyst for PaineWebber, Inc. Mr. Auchincloss holds a B.S. from Babson College and an M.B.A. from The Wharton School, University of Pennsylvania.

## SCIENTIFIC ADVISORY BOARD

The Company's Scientific Advisory Board consists of individuals with demonstrated expertise in various fields who advise the Company concerning long-term scientific planning, research and development. The Scientific Advisory Board also evaluates the Company's research programs, recommends personnel to the Company and advises the Company on technological matters. The members of the Scientific Advisory Board, which is chaired by Dr. Vicki L. Sato, are:

Vicki L. Sato, Ph.D.....	Senior Vice President of Research and Development and Chief Scientific Officer, Vertex Pharmaceuticals Incorporated.
Steven J. Burakoff, M.D....	Chair, Department of Pediatric Oncology, Dana-Farber Cancer Institute; Professor of Pediatrics, Harvard Medical School.
Eugene H. Cordes, Ph.D.....	Professor of Pharmacy and Chemistry, University of Michigan at Ann Arbor.
Jerome E. Groopman, M.D....	Chief of the Division of Experimental Medicine, Beth Israel Deaconess Medical Center; Recanti Chair in Immunology and Professor of Medicine, Harvard Medical School.
Stephen C. Harrison, Ph.D..	Professor of Biochemistry and Molecular Biology, Harvard University; Investigator, Howard Hughes Medical Institute; Professor of Biological Chemistry and Molecular Pharmacology and Professor of Pediatrics, Harvard Medical School.
Jeremy R. Knowles, D. Phil.	Dean of the Faculty of Arts and Sciences, Harvard University; Amory Houghten Professor of Chemistry and Biochemistry, Harvard University.
Robert T. Schooley, M.D....	Head, Infectious Disease Division, University of Colorado Health Sciences Center; Professor of Medicine, University of Colorado.

Other than Dr. Sato, none of the members of the Scientific Advisory Board is employed by the Company, and members may have other commitments to or consulting or advisory contracts with their employers or other entities that may conflict or compete with their obligations to the Company. Accordingly, such persons are expected to devote only a small portion of their time to the Company. In addition to its Scientific Advisory Board, Vertex has established consulting relationships with a number of scientific and medical experts who advise the Company on a project-specific basis.

## RISK FACTORS

The following risk factors should be considered carefully in addition to the other information contained in this Report.

## EARLY STAGE OF DEVELOPMENT; TECHNOLOGICAL UNCERTAINTY

The Company was founded in 1989 and has not generated any pharmaceutical product sales. To achieve profitable operations, the Company, alone or with others, must successfully develop, clinically test, market and sell its products. Any products resulting from the Company's product development efforts are not expected to be available for sale in the near future, if at all.

The development of new pharmaceutical products is highly uncertain and subject to a number of significant risks. Potential products that appear to be promising at early stages of development may not reach the market for a number of reasons. Such reasons include the possibilities that the potential products are found ineffective or cause harmful side effects during preclinical testing or clinical trials, fail to receive necessary regulatory approvals, are difficult or uneconomical to manufacture on a large scale, fail to achieve market acceptance or are precluded from commercialization by proprietary rights of third parties.

The products that the Company is pursuing will require extensive additional development, testing and investment, as well as regulatory approvals, prior to commercialization. No assurance can be given that the Company's product development efforts will be successful, that required regulatory approvals will be obtained or that any products, if introduced, will be commercially successful. Further, the Company has no sales and marketing capabilities, and even if the Company's products in development are approved for marketing, there can be no assurance that the Company will be able to develop such capabilities. In addition, only a limited number of drugs developed through structure-based drug design have completed clinical trials successfully, been approved by the FDA and been marketed. One of the Company's potential products, VX-478, is an HIV protease inhibitor which is currently in Phase II clinical trials. The Company and its collaborative partners recently began Phase III clinical trials. To date, HIV has been shown to develop resistance to antiviral drugs, including currently marketed HIV protease inhibitors. There can be no assurance that such disease resistance or other factors will not limit the efficacy of the Company's HIV protease inhibitor. The clinical efficacy of the suppression of mechanisms of action of MDR in chemotherapy in the treatment of cancer is unproven, and, therefore, there can be no assurance that the Company's MDR compounds in development will improve the efficacy of chemotherapy. There also can be no assurance that drug candidates being pursued by the Company will be safe and efficacious, will receive regulatory approvals or will result in commercially successful products. If any of the Company's development programs is not successfully completed, required regulatory approvals are not obtained, or products for which approvals are obtained are not commercially successful, the Company's business, financial condition and results of operations would be materially adversely affected. See "Business -- Product Development and Research Programs."

## UNCERTAINTIES RELATED TO CLINICAL TRIALS

Before obtaining required regulatory approvals for the commercial sale of products under development, the Company must demonstrate through preclinical studies and clinical trials that such products are safe and efficacious for use in each target indication. The results of preclinical and initial clinical trials of products under development by the Company are not necessarily predictive of results that will be obtained from large-scale clinical testing, and there can be no assurance that clinical trials of products under development will demonstrate the safety and efficacy of such products or will result in a marketable product. The safety and efficacy of a therapeutic product under development by the Company must be supported by extensive data from clinical trials. A number of companies have suffered significant setbacks in advanced clinical trials, despite



promising results in earlier trials. The Company currently has four product candidates undergoing clinical trials, VX-478, VX-710, VX-853 and VX-366. In addition, the Company has a number of products undergoing preclinical development. The data observed to date is preliminary, and there can be no assurance that the results of ongoing and future trials will be consistent with results observed in earlier clinical trials or will be sufficient for approval. The failure to demonstrate adequately the safety and efficacy of a therapeutic drug under development could delay or prevent regulatory approval of the product and could have a material adverse effect on the Company. In addition, the FDA may require additional clinical trials, which could result in increased costs and significant development delays.

The administration alone or in combination with other drugs of any product developed by the Company may produce undesirable side effects in humans. The occurrence of such side effects could interrupt, delay or halt clinical trials of such products and could ultimately prevent their approval by the FDA or foreign regulatory authorities for any or all targeted indications. The Company or the FDA may suspend or terminate clinical trials at any time if it is believed that the trial participants are being exposed to unacceptable health risks. Even after approval by the FDA and foreign regulatory authorities, products may later exhibit adverse effects that discourage widespread use or necessitate their withdrawal from the market. There can be no assurance that any products under development by the Company will be safe when administered to patients.

The rate of completion of clinical trials of the Company's products is dependent upon, among other factors, the rate of patient accrual. Patient accrual is a function of many factors, including the size of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the trial and the availability of clinical trial material. Delays in planned patient enrollment in clinical trials may result in increased costs, program delays or both, which could have a material adverse effect on the Company. There can be no assurance that if clinical trials are completed the Company will be able to submit an NDA or that any such application will be reviewed and approved by the FDA in a timely manner, if at all. See "Business -- Government Regulation."

#### DEPENDENCE ON COLLABORATIVE PARTNERS

The Company is engaged in research and development collaborations with Glaxo Wellcome, HMR, Kissei, Alpha and BioChem pursuant to which these parties have agreed to fund portions of the Company's research and development programs and/or to conduct certain research and development relating to specified products, in exchange for certain technology, product and marketing rights relating to those products. Some of the Company's current corporate partners have certain rights to control the planning and execution of product development and clinical programs, and there can be no assurance that such corporate partners' rights to control aspects of such programs will not impede the Company's ability to conduct such programs in accordance with the schedules and in the manner currently contemplated by the Company for such programs.

If any of the Company's corporate collaborators were to terminate its relationship with Vertex, it could have a material adverse effect on the Company's ability to fund related and other programs and to develop, manufacture and market any products that may have resulted from such collaboration. There can be no assurance that these collaborations will be completed or successful, or that the collaborative partners will not pursue alternative means of developing treatments for the diseases targeted by their collaborative programs with the Company. Glaxo Wellcome has the right to terminate the research collaboration under its agreement with the Company without cause at any time upon twelve months' notice and has the right to terminate the license arrangements under its agreement with the Company without cause upon twelve months' notice, provided such notice is not given before the research collaboration has been terminated. Termination by Glaxo Wellcome of the research collaboration under its agreement with the Company will relieve Glaxo Wellcome of its obligation to

make further research support payments under the agreement. Termination by Glaxo Wellcome of the license arrangements under the agreement will relieve it of its obligation to make further commercialization and development milestone and royalty payments and will end any license granted to Glaxo Wellcome by Vertex. HMR has the right to terminate its agreement with the Company without cause upon twelve months' notice at any time. Termination by HMR will relieve HMR of any further payment obligations under its agreement with the Company. In addition, for a period of one year after any such termination, HMR retains the right to select one or more compounds for development and to license such compound or compounds from Vertex, provided HMR resumes research funding and commercialization milestone payments and makes all such payments that would otherwise have been due but for such termination. Alpha has the right to terminate its agreement with the Company without cause upon six months' notice at any time. Termination will relieve Alpha of any further payment obligations under its agreement with the Company and will also terminate any license granted to Alpha by Vertex. BioChem has the right to terminate its agreement with the Company without cause upon six month's notice at any time after May 8, 1997. Termination will relieve BioChem of any further payment obligations under its agreement with the Company and will terminate any license granted to BioChem thereunder.

The Company may seek additional collaborative arrangements to develop and commercialize its products in the future. There can be no assurance that the Company will be able to establish acceptable collaborative arrangements in the future or that such collaborative arrangements will be successful. In addition, there can be no assurance that collaborative partners will not pursue alternative technologies or develop alternative compounds either on their own or in collaboration with others, including the Company's competitors, as a means for developing treatments for the diseases targeted by their collaborative programs with the Company or that disagreements over rights to technology, other proprietary information or the course of the research and development program will not occur. Such events could result in the delay or cancellation of programs or product introduction even if regulatory approvals are obtained. See "Business -- Corporate Collaborations."

#### RAPID TECHNOLOGICAL CHANGE AND COMPETITION

The Company is engaged in pharmaceutical fields characterized by extensive research efforts, rapid technological progress and intense competition. There are many public and private companies, including pharmaceutical companies, chemical companies and biotechnology companies, engaged in developing products for the human therapeutic applications targeted by Vertex. Further, the Company believes that interest in the application of structure-based drug design and related technologies may continue and may accelerate as the technologies become more widely understood. The Company is aware of efforts by others to develop products in each of the areas in which the Company has products in development. For example, Merck & Co., Inc., Abbott Laboratories, Inc. and Hoffmann-La Roche have HIV protease inhibitors which have been approved by the FDA for marketing, and Agouron Pharmaceuticals, Inc. has filed an NDA for an HIV protease inhibitor. The Company is also aware of other companies that have HIV protease inhibitors in development. There also are a number of competitors that have products under development for the treatment of MDR in cancer and for the treatment of hemoglobin disorders. In order for the Company to compete successfully in these areas, it must demonstrate improved safety, efficacy, ease of manufacturing and market acceptance over its competitors, who have received regulatory approval and are currently marketing. Furthermore, academic institutions, governmental agencies and other public and private research organizations are conducting research to develop technologies and products that may compete with those under development by the Company. In addition, other technologies are, or may in the future become, the basis for competing products. There can be no assurance that the Company's competitors will not succeed in developing technologies and products that are more effective than any being developed by the Company or that would render the Company's technology and products obsolete or noncompetitive. In addition, there can be no assurance that the Company's products in development will be able to compete effectively with products which are currently on the market.

Many of the Company's competitors have substantially greater financial, technical and human resources than those of the Company. In addition, many of the Company's competitors have significantly greater experience than the Company in conducting preclinical testing and human clinical trials of new pharmaceutical products, and in obtaining FDA and other regulatory approvals of products. Accordingly, certain of the Company's competitors may succeed in obtaining regulatory approval for products more rapidly than the Company. If the Company obtains regulatory approval and commences commercial sales of its products, it will also compete with respect to manufacturing efficiency and sales and marketing capabilities, areas in which it currently has no experience. See "Business -- Competition."

#### MANUFACTURING UNCERTAINTIES; RELIANCE ON THIRD PARTY MANUFACTURERS

The Company's ability to conduct clinical trials and its ability to commercialize its potential products will depend, in part, on its ability to manufacture its products on a large scale, either directly or through third parties, at a competitive cost and in accordance with FDA and other regulatory requirements. Furthermore, for all of the Company's drugs in development, completion of clinical trials and submission of an NDA will be subject to the establishment of a commercial formulation and manufacturing process. As manufacturing process development and formulation activities are ongoing throughout the development process, the Company or its collaborators may encounter difficulties at any time that could result in delays in clinical trials, regulatory submissions and commercialization of its products, or cause negative financial and competitive consequences. Manufacturing process development and formulation activities for VX-478 by the Company and Glaxo Wellcome are continuing while clinical trials are underway. There can be no assurance that such activities will be completed in a timely and successful manner, if at all. The failure to complete such activities in a timely and successful manner could have a material adverse effect on the business, financial condition or results of operations of the Company.

The Company currently does not have the capacity to manufacture its potential products and is dependent on third party manufacturers or collaborative partners for the production of its compounds for preclinical research and clinical trial purposes. The Company expects to be dependent on such manufacturers or collaborative partners for some or all commercial production of any of its compounds that are approved for marketing. In the event that the Company is unable to obtain contract manufacturing, or obtain such manufacturing on commercially reasonable terms, it may not be able to conduct or complete clinical trials or, if FDA approval is obtained, commercialize its products as planned. The Company has no experience in manufacturing pharmaceutical or other products or in conducting manufacturing testing programs required to obtain FDA and other regulatory approvals, and there can be no assurance that the Company will successfully develop such capabilities.

Some of the Company's current corporate partners have certain manufacturing rights with respect to the Company's products under development, and there can be no assurance that such corporate partners' manufacturing rights will not impede the Company's ability to conduct the development programs and commercialize any resulting products in accordance with the schedules and in the manner currently contemplated by the Company. See "Business -- Manufacturing."

#### EXTENSIVE GOVERNMENT REGULATION; UNCERTAINTY OF PRODUCT CLEARANCE AND APPROVAL

The FDA and comparable agencies in foreign countries impose substantial requirements on the introduction of therapeutic pharmaceutical products through lengthy and detailed laboratory and clinical testing procedures, sampling activities and other costly and time-consuming procedures. Satisfaction of these requirements typically takes several years or longer and may vary substantially based upon the type, complexity and novelty of the pharmaceutical product. The Company has had only limited experience in conducting preclinical testing and human clinical trials. In addition, the

Company has not received FDA or other regulatory approvals for any of its product candidates. Data obtained from preclinical and clinical activities are susceptible to varying interpretations, which could delay, limit or prevent regulatory approval. In addition, delays or rejections may be encountered based on changes in, or additions to, regulatory policies for drug approval during the period of product development and regulatory review.

The effect of government regulation may be to delay or prevent the commencement of clinical trials or marketing of Company products, if any are developed and submitted for approval, for a considerable period of time, to impose costly procedures upon the Company's activities and to provide a competitive advantage to larger companies or companies more experienced in regulatory affairs that compete with the Company. There can be no assurance that FDA or other regulatory approval for clinical trials or marketing of any products developed by the Company will be granted on a timely basis or at all. Delay in obtaining or failure to obtain such approvals would adversely affect the marketing of the Company's products and the Company's liquidity and capital resources. Moreover, even if approval is granted, such approval may entail limitations on the indicated uses for which a compound may be marketed. Even if such regulatory approval is obtained, a marketed drug or compound and its manufacturer are subject to continual review, and later discovery of previously unknown problems with a product or manufacturer may result in restrictions on such product or manufacturer, including withdrawal of the product from the market. Failure to comply with applicable regulatory requirements can, among other things, result in fines, suspensions of regulatory approvals, product recalls, operating restrictions and criminal prosecution. Further, additional government regulation may be established which could prevent or delay regulatory approval of the Company's products.

The Company has obtained orphan drug status for VX-366 for the treatment of beta thalassemia and sickle cell disease and may apply for orphan drug status for certain indications of MDR in cancer. Orphan drug status may, under present regulations, entitle the Company to certain marketing exclusivity and tax benefits. While the marketing exclusivity of an orphan drug would prevent other sponsors from obtaining approval of the same compound for the same indication, it would not prevent chemically distinct drugs from being approved for the same use. There can be no assurance that the Company will receive FDA orphan drug status for any of its compounds under development for which the Company seeks that status. Moreover, there can be no assurance that the scope of protection or the level of exclusivity that is currently afforded by orphan drug status will remain in effect in the future. See "Business -- Government Regulation."

The Company's research and development activities involve the controlled use of hazardous materials, chemicals and various radioactive compounds. The risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of an accident, the Company could be held liable for any damages or fines that result, and the liability could have a material adverse effect on the Company's business, financial condition and results of operations. There can be no assurance that statutes or regulations, applicable to the Company's business which impose substantial additional costs or otherwise materially adversely affect the Company's operations, will not be adopted.

#### UNCERTAINTY RELATED TO PATENTS AND PROPRIETARY INFORMATION

The Company's success will depend, in part, on its ability to obtain United States and foreign patent protection for its products and their uses, to preserve its trade secrets and to operate without infringing the proprietary rights of third parties. Because of the substantial length of time and expense associated with bringing new products through development and regulatory approval to the marketplace, the pharmaceutical industry places considerable importance on obtaining patents and maintaining trade secret protection for new technologies, products and processes. Patent protection may not be available, however, for compounds for use in certain medical indications, without a demonstration of how to use the compounds and proof in clinical trials that such

compounds may be useful for such target indications. As of February 20, 1997, the Company had a total of six United States patents and 63 pending United States patent applications. As of that date, the Company also had a non-exclusive, worldwide license under certain Searle patent applications claiming HIV protease inhibitors. The Company also has been granted an exclusive license under four United States patents, one of which is subject to a reissue application. The Company also has filed foreign counterparts to some of its United States patents and patent applications. There can be no assurance that patents will issue from any of the Company's pending or future patent applications. There can be no assurance that any issued, licensed, pending or future patent will not be infringed by the products of others or provide sufficient protection to exclude others from the Company's present or future technology or products. The Company has in the past licensed and may in the future license patent rights from others. There can be no assurance, however, that such licenses will provide adequate protection for the Company's products.

Issued United States patents are presumed valid under United States patent law. No assurance can be given, however, that one or more of the Company's issued patents will not be declared invalid by a court. Legal standards relating to the validity of patents and the proper scope of their claims in the biopharmaceutical field are still evolving, and there is no consistent law or policy regarding the valid breadth of claims in biopharmaceutical patents or the effect of prior art on them. Furthermore, no assurance can be given as to the degree of protection any patents will afford to the Company's technology or as to the Company's ability to avoid infringing the claims of the patents held by third parties. Further, there can be no assurance that a license to such patents would be available on terms acceptable to the Company, if at all. There also can be no assurance that any patents issued to or licensed by the Company will not be infringed by others.

In addition to being a potential party to patent infringement litigation, the Company could become involved in interference proceedings declared by the United States Patent and Trademark Office. Defense and prosecution of patent claims, as well as participation in interference proceedings, can be expensive and time-consuming, even in those instances in which the outcome is favorable to the Company. If the outcome of any such litigation or proceeding were adverse, the Company could be subject to significant liabilities to third parties, could be required to obtain licenses from third parties or could be required to cease sales of the affected products, any of which could have a material adverse effect on the Company.

The Company has licensed on an exclusive basis four United States patents and one United States reissue application from Children's Hospital Medical Center of Oakland (California) ("Children's Hospital"). Three of these patents and the reissue application claim the use of compounds, including VX-366, in the treatment of hemoglobin disorders, including sickle cell disease and beta thalassemia. Because Children's Hospital did not foreign file the application corresponding to the reissue application within one year of filing its corresponding United States application, the Company's foreign patent rights may be limited. In addition, there can be no assurance that others will not develop independently substantially equivalent technology, obtain access to the Company's know-how or be issued patents which may prevent the sale of the Company's products or require licensing and the payment of significant fees or royalties by the Company in order for it to carry on its business. Furthermore, there can be no assurance that any such license will be available.

The Company's management and scientific personnel have been recruited from other pharmaceutical and biotechnology companies and academic institutions. In many cases these individuals are conducting research in similar areas with which they were involved prior to joining Vertex. As a result, the Company, as well as these individuals, could be subject to allegations of violation of trade secrets and similar claims. See " -- Dependence on Collaborative Partners" and "Business - -- Corporate Collaborations" and " -- Patents and Proprietary Information."

## FUTURE CAPITAL NEEDS; UNCERTAINTY OF ADDITIONAL FUNDING

The Company expects to incur substantially increased research and development and related supporting expenses as it designs and develops existing and future compounds and undertakes clinical trials of potential drugs resulting from such compounds. The Company also expects to incur substantial administrative and commercialization expenditures in the future and substantial expenses related to the filing, prosecution, defense and enforcement of patent and other intellectual property claims. The Company's future capital requirements will depend on many factors, including the progress of its research and development programs, the scope and results of preclinical studies and clinical trials, the cost, timing and outcome of regulatory reviews, the costs involved in filing, prosecuting and enforcing patent claims, competing technological and market developments, the establishment of additional collaborative arrangements and the cost of manufacturing facilities and of commercialization activities and arrangements. The Company anticipates that it will finance these substantial cash needs with its existing cash reserves, together with interest earned thereon, future payments under its collaborative agreements with Glaxo Wellcome, HMR, Kissei, Alpha and BioChem, facilities and equipment financing and additional collaborative agreements. To the extent that funds from these sources are not sufficient to fund the Company's activities, it will be necessary to raise additional funds through public offerings or private placements of debt or equity securities or other methods of financing. Any equity financings could result in dilution to the Company's then existing stockholders. Any debt financing, if available at all, may be on terms which, among other things, restrict the Company's ability to pay dividends (although the Company does not intend to pay dividends for the foreseeable future). If adequate funds are not available, the Company may be required to curtail significantly or discontinue one or more of its research, drug discovery or development programs, including clinical trials, or attempt to obtain funds through arrangements with collaborative partners or others that may require the Company to relinquish rights to certain of its technologies or products in research or development. No assurance can be given that additional financing will be available on acceptable terms, if at all. See "Management's Discussion and Analysis of Financial Condition and Results of Operations."

## HISTORY OF OPERATING LOSSES AND ACCUMULATED DEFICIT

Vertex has incurred losses since its inception in January 1989. As of December 31, 1996, the Company's accumulated deficit was approximately \$96.9 million. Losses have resulted principally from costs incurred in research and development of the Company's compounds in development, including clinical trials and material manufacturing costs, the Company's other research programs and from general and administrative costs. These costs have exceeded the Company's revenues, which to date have been generated primarily from collaborative arrangements, interest income and research grants. The Company expects to incur additional significant operating losses in the future and does not expect to achieve profitability from sales of its products in development for several years, if ever. The Company expects that losses will fluctuate from quarter to quarter and that such fluctuations may be substantial. There can be no assurance that the Company will ever achieve product revenues or profitable operations. Based on the Internal Revenue Code of 1986, as amended, and changes in the Company's ownership, utilization of net operating loss carryforwards and research and development credits for federal income tax purposes may be subject to annual limitations. See "Management's Discussion and Analysis of Financial Condition and Results of Operations."

## UNCERTAINTY RELATED TO PHARMACEUTICAL PRICING AND REIMBURSEMENT

The Company's ability to commercialize its products successfully will depend in part on the extent to which appropriate reimbursement levels for the cost of such products and related treatment are obtained from government authorities, private health insurers and other organizations, such as health maintenance organizations ("HMOs"). Third party payors and government

authorities are continuing efforts to contain or reduce the cost of health care. For example, in certain foreign markets, pricing and/or profitability of prescription pharmaceuticals are subject to government control. There can be no assurance that similar controls will not be implemented in the United States. Also, the trend toward managed health care in the United States and the concurrent growth of organizations such as HMOs, which could control or significantly influence the purchase of health care services and products, may result in lower prices for the Company's products. The cost containment measures that health care providers and third party payors are instituting and any proposed or future health care reform measures, including any reductions in government reimbursement programs such as Medicaid and Medicare, could affect the Company's ability to sell its products and may have a material adverse effect on the Company.

The success of the Company's products in the United States and other significant markets will depend, in part, upon the extent to which a consumer will be able to obtain reimbursement for the cost of such products from government health administration authorities, third-party payors and other organizations. Significant uncertainty exists as to the reimbursement status of newly approved therapeutic products. Even if a product is approved for marketing, there can be no assurance that adequate reimbursement will be available. The Company is unable to predict what additional legislation or regulation relating to the health care industry or third-party coverage and reimbursement may be enacted in the future or what effect the legislation or regulation would have on the Company's business. Failure to obtain reimbursement could have a material adverse effect on the Company.

#### ABSENCE OF SALES AND MARKETING EXPERIENCE

The Company currently has no experience in marketing or selling pharmaceutical products. The Company must either develop a marketing and sales force or enter into arrangements with third parties to market and sell any of its product candidates which are approved by the FDA. In the territories where the Company retains marketing and co-promotion rights, there can be no assurance that the Company will successfully develop its own sales and marketing experience or that it will be able to enter into marketing and sales agreements with others on acceptable terms, if at all. If the Company develops its own marketing and sales capability, it will compete with other companies that currently have experienced and well-funded marketing and sales operations. To the extent that the Company has or enters into co-promotion or other sales and marketing arrangements with other companies, any revenues to be received by the Company will be dependent on the efforts of others, and there can be no assurance that such efforts will be successful.

#### DEPENDENCE ON KEY MANAGEMENT AND QUALIFIED PERSONNEL

The Company is highly dependent upon the efforts of its senior management and scientific team. The loss of the services of one or more members of the senior management and scientific team might impede the achievement of the Company's development objectives. Due to the specialized scientific nature of the Company's business, the Company is also highly dependent upon its ability to attract and retain qualified scientific, technical and key management personnel. There is intense competition for qualified personnel in the areas of the Company's activities, and there can be no assurance that the Company will be able to continue to attract and retain qualified personnel necessary for the development of its existing business and its expansion into areas and activities requiring additional expertise, such as clinical testing, government approvals, production and marketing. See "Human Resources."

#### PRODUCT LIABILITY AND AVAILABILITY OF INSURANCE

The Company's business will expose it to potential product liability risks that are inherent in the testing, manufacturing and marketing of pharmaceutical and other products developed by the Company. The use of the Company's products in clinical trials also exposes the Company to the

possibility of product liability claims and possible adverse publicity. These risks will increase to the extent the Company's products receive regulatory approval and are commercialized. The Company maintains product liability insurance for clinical trials. The Company does not currently have any other product liability insurance. There can be no assurance that the Company will be able to maintain its existing insurance or be able to obtain or maintain such additional insurance as it may need in the future on acceptable terms or that the Company's existing insurance or any such additional insurance will provide adequate coverage against potential liabilities.

#### VOLATILITY OF SHARE PRICE; OPTION GRANTS

Market prices for securities of companies such as Vertex are highly volatile, and the market for the securities of such companies, including the Common Stock of the Company, has from time to time experienced significant price and volume fluctuations that are unrelated to the operating performance of these particular companies. Factors such as announcements of results of clinical trials, technological innovations or new products by Vertex or its competitors, government regulatory action, public concern as to the safety of products developed by the Company or others, patent or proprietary rights developments and market conditions for pharmaceutical and biotechnology stocks, in general, could have a significant adverse effect on the future market price of the Common Stock.

As of December 31, 1996, the Company had outstanding options for the purchase of 4,032,609 shares of Common Stock at exercise prices ranging from \$6.48 per share to \$37.50 per share. Options for the purchase of 1,624,862 shares of Common Stock were exercisable as of that date.

#### ANTI-TAKEOVER PROVISIONS

The Company's charter provides for staggered terms for the members of the Board of Directors. The Company's By-laws grant the Directors a right to adjourn annual meetings of stockholders, and certain provisions of the By-laws may be amended only with an 80% stockholder vote. Pursuant to the Company's Stockholder Rights Plan, as amended as of February 21, 1997, each share of Common Stock has an associated preferred share purchase right (a "Right"). The Rights will not trade separately from the Common Stock until, and are exercisable only upon, the acquisition or the potential acquisition through tender offer by a person or group of 15% or more of the outstanding Common Stock. These charter and By-law provisions and the Company's Stockholder Rights Plan may discourage certain types of transactions involving an actual or potential change in control of the Company which might be beneficial to the Company or its stockholders.

Shares of any class or series of preferred stock may be issued by the Company in the future without stockholder approval and upon such terms as the Board of Directors may determine. The rights of the holders of Common Stock will be subject to, and may be adversely affected by, the rights of the holders of any class or series of preferred stock that may be issued in the future. The issuance of preferred stock, while providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of discouraging a third party from acquiring a majority of the outstanding Common Stock of the Company. The Company has no present plans to issue any shares of any class or series of Preferred Stock.



## ITEM 2. PROPERTIES

The Company leases an aggregate of approximately 110,000 square feet of laboratory and office space in five adjacent facilities at 40 Allston Street, 625 Putnam Avenue, 618 Putnam Avenue, 240 Sidney Street and 130 Waverly Street in Cambridge, Massachusetts. The lease to the 40 Allston Street, 618 Putnam Avenue and 240 Sidney Street facilities will expire in December 2003. The lease to the 625 Putnam Avenue facility expires in December 1998, subject to an option, at the Company's election, to extend the term through December 2000. The lease to the 130 Waverly Street facility will expire in December 2005. The Company has occupied approximately 53,000 square feet of space under this lease, with approximately 7,000 square feet of additional space available for expansion. The Company believes its facilities are adequate for its current needs. The Company believes it can obtain additional space on commercially reasonable terms.

## ITEM 3. LEGAL PROCEEDINGS

The Company is not a party to any material legal proceedings.

## ITEM 4. SUBMISSION OF MATTERS TO SECURITY HOLDERS

There were no matters submitted to a vote of security holders during the fourth quarter of the fiscal year ended December 31, 1996.

## PART II

## ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

The Company's Common Stock trades on the Nasdaq Stock Market ("Nasdaq") under the symbol "VRTX." The following table sets forth the high and low last sale prices for each quarter and the last sale price at the end of each quarter for the Common Stock as reported by Nasdaq for the periods indicated.

1995	HIGH	LOW	CLOSE
-----			
First quarter	\$16 3/4	\$13	\$13 1/2
Second quarter	16 3/4	12 3/4	16 3/8
Third quarter	23	13 1/2	18 3/4
Fourth quarter	26 1/2	16 1/4	26 1/2
1996			
-----			
First quarter	\$29 7/8	\$22	\$26 1/2
Second quarter	38	26	30 3/8
Third quarter	36 1/4	23 1/4	29 1/2
Fourth quarter	40 1/4	28 7/8	40 1/4

The last sale price of the Common Stock on March 6, 1997, as reported by Nasdaq, was \$46.00 per share. As of March 5, 1997, there were 297 holders of record of the Common Stock (approximately 5,200 beneficial holders).

The Company has never declared or paid any cash dividends on its Common Stock and currently expects that future earnings will be retained for use in its business.

## RECENT SALE OF UNREGISTERED SECURITIES

On June 28, 1996, the Company issued and sold to Glaxo Wellcome, for cash, 151,792 shares of the Company's Common Stock at a purchase price of \$32.94 per share, or an aggregate purchase price of \$5,000,028. The securities issued were not registered under the Securities Act of 1933, as amended (the "Securities Act"), in reliance on the exemption set forth in Section 4(2) of the Securities Act. The sale to Glaxo Wellcome was a privately negotiated sale by the Company not involving any public offering.

## ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data for each of the five years in the period ended December 31, 1996 are derived from the Company's Consolidated Financial Statements audited by Coopers & Lybrand L.L.P., independent accountants. This data should be read in conjunction with the Company's audited financial statements and related notes, and "Management's Discussion and Analysis of Financial Condition and Results of Operations." No dividends were declared or paid for any of the periods presented.

	YEAR ENDED DECEMBER 31,					
	*Proforma					
	1996	1996	1995	1994	1993	1992
		(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)				
Consolidated Statement of Operations Data:						
Revenues:						
Collaborative and other research and development revenues .....	\$ 13,341	\$ 13,341	\$ 22,081	\$ 19,571	\$27,885	\$ 3,767
Interest income .....	5,257	5,257	5,453	3,574	1,409	1,983
Total revenues .....	18,598	18,598	27,534	23,145	29,294	5,750
Costs and expenses:						
Research and development .....	35,212	35,212	41,512	34,761	23,164	11,505
General and administrative .....	7,929	7,929	7,069	5,540	3,520	2,278
License Payment .....	15,000	15,000	--	--	--	--
Interest .....	462	462	481	439	493	453
Total costs and expenses .....	58,603	58,603	49,062	40,740	27,177	14,236
Net (loss) profit before taxes .....	(40,005)	(40,005)	(21,528)	(17,595)	2,117	(8,486)
Tax provision .....	--	--	--	--	80	--
Net (loss) profit .....	\$(40,005)	\$(40,005)	\$(21,528)	\$(17,595)	\$ 2,037	\$ (8,486)
Net (loss) profit per common share .....	\$ (2.13)	\$ (2.13)	\$ (1.25)	\$ (1.11)	\$ 0.16	\$ (0.70)
Weighted average number of common shares outstanding .....	18,798	18,798	17,231	15,818	12,451	12,110

	DECEMBER 31,					
	*Proforma					
	1996	1996	1995	1994	1993	1992
Consolidated Balance Sheet Data:						
Cash, cash equivalents and short-term investments .....	\$ 279,222	\$ 130,359	\$ 86,978	\$ 106,470	\$ 52,103	\$ 43,701
Total assets .....	292,362	143,499	98,981	116,175	60,992	51,043
Obligations under capital leases, excluding current portion .....	5,617	5,617	4,912	4,729	4,208	3,338
Accumulated deficit .....	(96,944)	(96,944)	(56,939)	(35,411)	(17,816)	(19,853)
Total stockholders' equity .....	279,689	130,826	85,272	105,478	49,520	43,850

\*To give effect to the sale of 3,450,000 shares of common stock in a public offering on March 12, 1997, with net proceeds to the Company of approximately \$148,863,000 (see Note N to the Financial Statements).

## ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The Company is engaged in the discovery, development and commercialization of novel, small molecule pharmaceuticals for the treatment of major diseases for which there are currently limited or no effective treatments. The Company is a leader in the use of structure-based drug design, an approach to drug discovery that integrates advanced biology, biophysics and chemistry.

The Company is conducting nine significant pharmaceutical research and development programs to develop pharmaceuticals for the treatment of viral diseases, multidrug resistance in cancer, hemoglobin disorders, autoimmune diseases, inflammatory diseases and neurodegenerative disorders. Three of these programs are in the development phase, and the other six are in the research phase.

To date, the Company has not received any revenues from the sale of pharmaceutical products and does not expect to receive such revenues, if any, in the near future. The Company has incurred since its inception, and expects to incur over the next several years, significant operating losses as a result of expenditures for its research and development programs. The Company expects that losses will fluctuate from quarter to quarter and that such fluctuations may be substantial.

#### RESULTS OF OPERATIONS

Year Ended December 31, 1996 Compared with Year Ended December 31, 1995.

The Company's total revenues decreased to \$18,598,000 in 1996 from \$27,534,000 in 1995. In 1996, revenues consisted of \$12,013,000 under the Company's collaborative agreements, \$5,257,000 in interest earned on invested funds and \$1,328,000 in government grants and other income. Revenue from collaborative agreements consisted of \$6,289,000 from the Glaxo Wellcome collaboration, \$4,196,000 from the HMR collaboration, \$692,000 from the Kissei collaboration, \$225,000 from the Alpha collaboration, \$577,000 from the BioChem collaboration and \$34,000 from the Chugai collaboration. The research funding requirements of the Chugai and Kissei collaborative agreements concluded in 1995, although Kissei continues to have certain development funding obligations. In 1995, revenues consisted of \$21,587,000 under the Company's collaborative agreements, \$5,453,000 in interest earned on invested funds and \$494,000 in government grants and other income. Revenue from collaborative agreements consisted of \$10,053,000 from the Glaxo Wellcome collaboration, \$5,370,000 from the Kissei collaboration, \$3,749,000 from the HMR collaboration, \$1,915,000 from the Chugai collaboration and \$500,000 from the Alpha collaboration.

The Company's total costs and expenses increased to \$58,603,000 in 1996 from \$49,062,000 in 1995. The increase in total costs and expenses resulted principally from the Company's payment of \$15,000,000 to obtain a non-exclusive, world-wide license under certain Searle patent applications claiming HIV protease inhibitors. Research and development expenses declined to \$35,212,000 in 1996 from \$41,512,000 in 1995. Although the Company's scientific staffing and facilities expansion added to expense in 1996, the overall decrease in research and development expense was due primarily to higher costs incurred in 1995 for the manufacturing of bulk intermediate drug substance for use in clinical trials. In addition, general and administrative expenses increased to \$7,929,000 in 1996 from \$7,069,000 in 1995. The increase in general and administrative expense principally reflects the impact of personnel additions, the Company's facilities expansion, and an increase in marketing costs including the addition of marketing and support personnel for the Company's subsidiary Altus Biologics Inc. ("Altus"). Interest expense decreased to \$462,000 in 1996 from \$481,000 in 1995 on higher levels of equipment lease financing due to lower blended rates of interest charged.

The Company recorded a net loss of \$40,005,000 or \$2.13 per share in 1996 compared to a net loss of \$21,528,000 or \$1.25 per share in 1995.

Year Ended December 31, 1995 Compared with Year Ended December 31, 1994.

The Company's total revenues increased to \$27,534,000 in 1995 from \$23,145,000 in 1994. In 1995, revenues consisted of \$21,587,000 under the Company's collaborative agreements, \$5,453,000 in interest earned on invested funds and \$494,000 in government grants and other income. Revenue from collaborative agreements consisted of \$10,053,000 from the Glaxo Wellcome collaboration, \$5,370,000 from the Kissei collaboration, \$3,749,000 from the HMR collaboration, \$1,915,000 from the Chugai collaboration and \$500,000 from the Alpha collaboration. The research funding requirements of the Chugai and Kissei collaborative agreements concluded in 1995, although Kissei continues to have certain development funding obligations. In 1994, revenues consisted of \$19,327,000 from collaborative agreements, \$3,574,000 in interest earned on invested funds and \$244,000 in government grants and other income. Revenue in 1994 from collaborative agreements consisted of \$5,346,000 from the Glaxo Wellcome collaboration, \$5,498,000 from the Kissei collaboration, \$3,514,000 from the HMR collaboration and \$4,969,000 from the Chugai collaboration.

The Company's total costs and expenses increased to \$49,062,000 in 1995 from \$40,740,000 in 1994. Research and development expenses increased 19% to \$41,512,000 in 1995 from \$34,761,000 in 1994, due, in part, to the costs associated with manufacturing drug product for use in ongoing clinical trials of the Company's drug candidates and, to a lesser extent, increases in the Company's research staff. General and administrative expenses increased by 28% to \$7,069,000 from \$5,540,000 between 1995 and 1994. The increase in general and administrative expense principally reflects the full year impact of personnel additions and the opening of an office in the United Kingdom in 1994 to support the Company's research and business development efforts. Also contributing to the increase were costs associated with the addition of marketing and support personnel for Altus. In addition, the Company experienced higher legal fees associated with its patent activities. Interest expense increased 10% to \$481,000 in 1995 from \$439,000 in 1994 as a result of higher levels of equipment leasing.

The Company recorded a net loss of \$21,528,000 or \$1.25 per share in 1995 compared to a net loss of \$17,595,000 or \$1.11 per share in 1994.

#### LIQUIDITY AND CAPITAL RESOURCES

The Company's operations have been funded principally through strategic collaborative agreements, public offerings and private placements of the Company's equity securities, equipment lease financing, government grants and interest income. The Company expects to incur increased research and development and related supporting expenses and, consequently, continued losses on a quarterly and annual basis as it continues to develop existing and future compounds and to conduct clinical trials of potential drugs. The Company also expects to incur substantial administrative and commercialization expenditures in the future and additional expenses related to the filing, prosecution, defense and enforcement of patent and other intellectual property rights.

The Company expects to finance these substantial cash needs with its existing cash and investments at December 31, 1996 of approximately \$130.4 million (\$279.2 million pro forma for the public offering of 3,450,000 shares of common stock on March 12, 1997), together with interest earned thereon, future payments under its existing collaborative agreements, and facilities and equipment financing. To the extent that funds from these sources are not sufficient to fund the Company's activities, it will be necessary to raise additional funds through public offerings or private placements of securities or other methods of financing. There can be no assurance that such financing will be available on acceptable terms, if at all.

The Company and BioChem are collaborating on the development and commercialization in Canada of VX-710, the Company's lead multidrug resistance reversal agent. Under the development agreement, BioChem is obligated to pay the Company up to \$4.0 million comprised of an initial licensing fee and payments for development and commercialization milestones. From the inception of the agreement in May 1996 through the year ended December 31, 1996, \$500,000 has been recognized as revenue. BioChem will fund development of VX-710 in Canada, including planned Phase II clinical trials in two different cancer indications. Vertex will supply BioChem clinical and commercial drug supply needs. In 1996, the Company received additional revenues related to the sale of clinical trial material to BioChem. BioChem will pay Vertex a portion of its net sales, which will cover Vertex's cost of supplying material and will provide a profit to Vertex.

The Company and Alpha are collaborating on the development and commercialization of VX-366 for the treatment of sickle cell anemia and beta thalassemia. Under the collaborative agreement, Alpha is obligated to pay the Company up to \$5.0 million comprised of an initial license fee and payments for development and commercialization milestones. From the inception of the agreement in October 1995 through the year ended December 31, 1996, \$500,000 has been recognized as revenue. In addition, Alpha is obligated to bear the costs of development of VX-366 under the collaboration. The Company received additional revenue related to reimbursements for clinical material during 1996. Alpha has the right to terminate the agreement without cause upon six months notice at any time. Termination will relieve Alpha of any further payment obligations under the agreement and will end the license granted to Alpha by Vertex.

The Company and Glaxo Wellcome are collaborating on the development of compounds in connection with the Company's HIV Program. Under the collaborative agreement, Glaxo Wellcome is obligated to pay the Company up to \$42.0 million comprised of a \$15.0 million initial license payment paid in 1993, \$14.0 million of product research funding over five years and \$13.0 million of development and commercialization milestone payments. From the inception of the agreement in December 1993 through the year ended December 31, 1996, \$25.0 million has been recognized as revenue. Glaxo Wellcome is also obligated to pay to Vertex additional development and commercialization milestone payments for subsequent drug candidates. In addition, Glaxo Wellcome agreed to bear the costs of development of drug candidates under the collaboration. The Company has received additional revenue related to reimbursements for clinical development. Under the agreement, Glaxo Wellcome is also required to pay Vertex a royalty on sales. Glaxo Wellcome has the right to terminate the research collaboration without cause upon twelve months notice given at any time and has the right to terminate the license arrangements without cause upon twelve months notice given at any time provided such notice is not given before the research collaboration has been terminated. Termination by Glaxo Wellcome of the research collaboration will relieve Glaxo Wellcome of its obligation to make further research support payments under the agreement. Termination by Glaxo Wellcome of the license arrangements under the agreement will relieve it of its obligation to make further commercialization and development milestone and royalty payments and will end any license granted to Glaxo Wellcome by Vertex thereunder. In June 1996, the Company and Glaxo Wellcome obtained a worldwide, non-exclusive license under certain Searle patent applications in the area of HIV protease inhibition. Vertex paid \$15.0 million and Glaxo Wellcome paid \$10.0 million to Searle for the license. The Company also agreed to pay Searle a royalty on sales of VX-478, the Company's lead HIV compound. In connection with this transaction, a \$5.0 million equity investment was made to the Company by Glaxo Wellcome.

The Company and HMR are collaborating on the development of interleukin-1 beta converting enzyme inhibitors as anti-inflammatory agents. Under the collaborative agreement, HMR is obligated to pay the Company up to \$30.5 million, comprised of \$18.5 million of product research funding over five years and \$12.0 million of development and commercialization milestone payments. From the inception of the agreement in September 1993 through the year ended December 31, 1996, \$14.5 million has been recognized as revenue. HMR has the right to terminate the agreement without cause upon twelve months notice at any time. For a period of one year after

any such termination, HMR retains the right to select one or more compounds for development and to license such compound or compounds from Vertex, provided HMR resumes all research funding and commercialization milestone payments and makes all such payments that would otherwise have been due but for such termination. Otherwise, in the case of such termination, all rights to compounds developed under the research and license agreements will revert to Vertex.

The Company and Kissei are collaborating on the development of Vertex's VX-478 protease inhibitor. Under the collaborative agreement, Kissei is obligated to pay the Company up to \$20.0 million, comprised of \$9.8 million of product research funding through 1995, \$7.0 million of development milestone and territory option payments and a \$3.2 million equity investment. From the inception of the agreement in April 1993 through the year ended December 31, 1996, \$17.8 million has been received, including \$14.6 million recognized as revenue and \$3.2 million as an equity investment. The Company received additional revenue related to reimbursements for clinical development during this period. Under the collaboration, Kissei is also required to pay Vertex a royalty on sales.

In March 1997, the Company completed a public offering of 3,450,000 shares of its common stock, which included an over-allotment exercised by the underwriters for 450,000 shares, at a price to the public of \$45.50 per share, with net proceeds to the Company of approximately \$148,863,000. In August 1996, the Company completed a public offering of 3,450,000 shares of its common stock, which included an over-allotment option exercised by the underwriters for 450,000 shares, at a price to the public of \$24 per share, with net proceeds to the Company of approximately \$77,515,000. In June 1996, Glaxo Wellcome purchased 151,792 shares of the Company's common stock at a price of \$32.94 per share, with net proceeds to the Company of approximately \$5.0 million. In November 1994, the Company sold 1,200,000 shares of common stock in a private placement to a subsidiary of BB Biotech AG at a price of \$12.50 per share, with net proceeds to the Company of approximately \$15,000,000. In February 1994, the Company sold 3,450,000 shares of common stock in a public offering at a price to the public of \$18.00 per share, with net proceeds to the Company of approximately \$58,062,000.

In March 1995, the Company signed a ten-year operating lease for additional facilities for occupancy in early 1996. The Company has occupied approximately 53,000 square feet of space under this lease and has agreed to occupy approximately 60,000 square feet in total during the lease period in order to meet its longer-term expansion needs. The costs to lease and equip these facilities will be funded, in whole or in part, through existing cash and investments and through lease financing, which has been made available to the Company on acceptable terms. During 1995, the Company deposited \$2,316,000 with its bank to collateralize a conditional letter of credit in the name of the landlord. The letter of credit is redeemable only if the Company defaults on the lease under specific criteria. These funds are restricted from the Company's use, although the Company is entitled to all interest earned on the funds. The Company expects to continue its current practice of leasing most of its capital equipment, provided such lease financing continues to be available to the Company on commercially acceptable terms.

The Company's aggregate cash and investments were \$130,359,000 at December 31, 1996, an increase of \$43,381,000 from December 31, 1995. Cash used by operations was \$40,253,000 in the year ended December 31, 1996. The Company expended \$3,983,000 to acquire property and equipment, principally for research equipment and facilities. To fund these expenditures, the Company entered into equipment lease financing in the aggregate amount of \$3,727,000. In addition, the Company repaid \$2,187,000 of its lease obligations during 1996.

#### ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information required by Item 8 is contained on pages F-1 through F-17 of this report.

## ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS AND FINANCIAL DISCLOSURE

Not applicable.

## PART III

## ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information regarding directors required by this Item is included in the definitive Proxy Statement for the Company's 1997 Annual Meeting of Stockholders, to be filed with the Commission on or about April 7, 1997 (the "1997 Proxy Statement"), under "Election of Directors" and is incorporated herein by reference. The information regarding executive officers required by this Item is included in Part I of this Annual Report on Form 10-K.

## ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is included in the 1997 Proxy Statement under "Executive Compensation" and is incorporated herein by reference (excluding, however, the "Report on Executive Compensation" and the Performance Graph contained in the 1997 Proxy Statement, which shall not be deemed incorporated herein).

## ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information required by this Item is included in the 1997 Proxy Statement under "Security Ownership of Certain Beneficial Owners and Management" and is incorporated herein by reference.

## ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Not applicable.



## PART IV

## ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K

- (a) (1) FINANCIAL STATEMENTS. The Financial Statements required to be filed by Item 8 of this Annual Report on Form 10-K, and filed herewith, are as follows:

	Page Number in this Form 10-K -----
Report of Independent Accountants .....	F-2
Consolidated Balance Sheets as of December 31, 1996 and 1995	F-3
Consolidated Statements of Operations for the years ended December 31, 1996, 1995 and 1994 .....	F-4
Consolidated Statements of Stockholders' Equity for the years ended December 31, 1996, 1995 and 1994 .....	F-5
Consolidated Statements of Cash Flows for the years ended December 31, 1996, 1995 and 1994 .....	F-6
Notes to Consolidated Financial Statements .....	F-7

- (a) (2) FINANCIAL STATEMENT SCHEDULES.

Financial Statement Schedules have been omitted because they are either not applicable or the required information is included in the consolidated financial statements or notes thereto.

- (a) (3) EXHIBITS.

EXHIBIT NUMBER -----	EXHIBIT DESCRIPTION -----
3.1	Restated Articles of Organization (filed as Exhibit 3.1 to the Company's Registration Statement on Form S-1 (Registration No. 33-43874) and incorporated herein by reference).
3.2	Articles of Amendment filed with the Commonwealth of Massachusetts on May 17, 1995 (filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1995 (File No. 0-19319) and incorporated herein by reference).
3.3	By-laws of the Company (filed as Exhibit 3.2 to the Company's Registration Statement on Form S-1 (Registration No. 33-43874) and incorporated herein by reference).
3.4	Certificate of Vote of Directors Establishing a Series of a Class of Stock, as filed with the Secretary of the Commonwealth of Massachusetts on July 31, 1991 (filed as Exhibit 3.3 to the Company's Registration Statement on Form S-1 (Registration No. 33-43874) and incorporated herein by reference).

- 4.1 Specimen stock certificate (filed as Exhibit 4.1 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).
- 4.2 Stockholder Rights Plan (filed as Exhibit 4.2 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).
- 4.3 First Amendment to Rights Agreement dated as of February 21, 1997 (filed herewith).
- 10.1 1991 Stock Option Plan, as amended and restated as of May 13, 1993 (filed as Exhibit 28.1 to the Company's Registration Statement on Form S-8 (No. 33-65742) and incorporated herein by reference).\*
- 10.2 1994 Stock and Option Plan (filed as Exhibit 10.2 to the Company's 1994 Annual Report on Form 10-K (File No. 0-19319) and incorporated herein by reference).\*
- 10.3 1996 Stock and Option Plan (filed herewith).
- 10.4 Non-Competition and Stock Repurchase Agreement between the Company and Joshua Boger, dated April 20, 1989 (filed as Exhibit 10.2 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).\*
- 10.6 Form of Employee Stock Purchase Agreement (filed as Exhibit 10.3 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).\*
- 10.7 Form of Employee Non-Disclosure and Inventions Agreement (filed as Exhibit 10.4 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).
- 10.8 Form of Executive Employment Agreement executed by Richard H. Aldrich, Joshua S. Boger, and Vicki L. Sato (filed as Exhibit 10.6 to the Company's 1994 Annual Report on Form 10-K (File No. 0-19319) and incorporated herein by reference).\*
- 10.9 Form of Amendment to Employment Agreement executed by Richard H. Aldrich, Joshua S. Boger and Vicki L. Sato (filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1995 (File No. 0-19319) and incorporated herein by reference).
- 10.10 Series C Convertible Preferred Stock Purchase Agreement between the Company and the party named therein, dated September 21, 1990 (filed as Exhibit 10.8 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).
- 10.11 Stock Purchase Agreement dated November 10, 1994 between the Company and Biotech Target S.A. (filed as Exhibit 10.12 to the Company's 1994 Annual Report on Form 10-K (File No. 0-19319) and incorporated herein by reference).
- 10.12 Lease dated October 1, 1992 between C. Vincent Vappi and the Company relating to the premises at 40 Allston Street, 618 Putnam Street, 228 Sidney Street, and 240 Sidney Street (filed as Exhibit 10.14 to the Company's Annual Report on Form 10-K for the year ended December 31, 1992 (File No. 0-19319) and incorporated herein by

reference).

- 10.13 First Amendment as of March 1, 1995 to the lease between C. Vincent Vappi and the Company (filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1995 (File No. 0-19319) and incorporated herein by reference).
- 10.14 Second Amendment as of February 12, 1997 to Lease between C. Vincent Vappi and the Company (filed herewith).
- 10.15 Lease dated March 1, 1993, between Fort Washington Realty Trust and the Company, relating to the premises at 625 Putnam Avenue, Cambridge, MA (filed as Exhibit 10.10 to the Company's Annual Report on Form 10-K for the year ended December 31, 1993 (File No. 0-19319) and incorporated herein by reference).
- 10.16 First Amendment, dated 1 December 1996, to Lease between Fort Washington Realty Trust and the Company dated 1 March 1993 (filed herewith).
- 10.17 Lease dated March 3, 1995, between Fort Washington Realty Trust and the Company, relating to the premises at 130 Waverly Street, Cambridge, MA (filed as Exhibit 10.15 to the Company's 1994 Annual Report on Form 10-K (File No. 0-19319) and incorporated herein by reference).
- 10.18 First Amendment to Lease dated March 3, 1995 between Fort Washington Realty Trust and the Company (filed as Exhibit 10.15 to the Company's 1995 Annual Report on Form 10-K (File No. 0-19319) and incorporated herein by reference).
- 10.19 Research and Development Agreement dated April 13, 1993 between the Company and Kissei Pharmaceutical Co., Ltd. (with certain confidential information deleted) (filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 1993 (File No. 0-19319) and incorporated herein by reference).
- 10.20 Research, Development, and License Agreement dated September 8, 1993 between the Company and Roussel Uclaf (with certain confidential information deleted) (filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 1993 (File No. 0-19319) and incorporated herein by reference).
- 10.21 License Agreement dated August 6, 1993 between the Company and Children's Hospital Medical Center of Northern California (with certain confidential information deleted) (filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 1993 (File No. 0-19319) and incorporated herein by reference).
- 10.22 Research Agreement and License Agreement, both dated December 16, 1993, between the Company and Burroughs Wellcome Co. (with certain confidential information deleted) (filed as Exhibit 10.16 to the Company's Annual Report on Form 10-K for the year ended December 31, 1993 (File No. 0-19319) and incorporated herein by reference).
- 10.23 License Agreement dated October 2, 1995 between the Company and Alpha Therapeutic Corporation (with certain confidential information deleted) (filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 1995 (File No. 0-19319) and incorporated herein by reference).

- 10.24 License Agreement and Supply Agreement, both dated May 9, 1996, between the Company and BioChem Pharma (International) Inc. (with certain confidential information deleted) (filed as Exhibit 10.1 to the Company's Quarterly Report on 10-Q for the quarter ended March 31, 1996 (File No. 0-19319) and incorporated herein by reference).
- 21 Subsidiaries of the Company (filed as Exhibit 21 to the Company's Annual Report on Form 10-K for the year ended December 31, 1995 (File no. 0-19319) and incorporated herein by reference).
- 23 Consent of Independent Accountants (filed herewith).
- 27 Financial Data Schedule (submitted as an exhibit only in the electronic format of this Annual Report on Form 10-K submitted to the Securities and Exchange Commission).

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- \* Compensatory plan or agreement applicable to management and employees.
- (b) Reports on Form 8-K. No reports on Form 8-K were filed by the Company during the quarter ended December 31, 1996.

## SIGNATURES

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

## VERTEX PHARMACEUTICALS INCORPORATED

March 27, 1997            By:    /s/ Joshua S. Boger  
 -----  
 Joshua S. Boger  
 President and Chief Executive Officer

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

Name - ----	Title	Date
/s/ Joshua S. Boger ----- Joshua S. Boger	Director, President and Chief Executive Officer (Principal Executive Officer)	March 27, 1997
/s/ Thomas G. Auchincloss, Jr. ----- Thomas G. Auchincloss, Jr.	Vice President of Finance and Treasurer (Principal Financial Officer)	March 27, 1997
/s/ Hans D. van Houte ----- Hans D. van Houte	Controller	March 27, 1997
/s/ Barry M. Bloom ----- Barry M. Bloom	Director	March 25, 1997
----- Donald R. Conklin	Director	March , 1997
/s/ Roger W. Brimblecombe ----- Roger W. Brimblecombe	Director	March 27, 1997
/s/ William W. Helman IV ----- William W. Helman IV	Director	March 27, 1997
/s/ Charles A. Sanders ----- Charles A. Sanders	Director	March 25, 1997

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## REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors and Stockholders  
Vertex Pharmaceuticals Incorporated:

We have audited the accompanying consolidated balance sheets of Vertex Pharmaceuticals Incorporated and Subsidiaries as of December 31, 1996 and 1995, and the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 1996. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Vertex Pharmaceuticals Incorporated and Subsidiaries as of December 31, 1996 and 1995, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 1996, in conformity with generally accepted accounting principles.

/s/ Coopers & Lybrand L.L.P.  
Coopers & Lybrand L.L.P.

Boston, Massachusetts  
February 18, 1997

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CONSOLIDATED BALANCE SHEETS  
VERTEX PHARMACEUTICALS INCORPORATED

(Dollars in thousands)	Pro Forma 1996 (Note N) (unaudited)	December 31,	
		1996	1995
<b>Assets</b>			
Current assets:			
Cash and cash equivalents	\$ 183,714	\$ 34,851	\$ 28,390
Short-term investments	95,508	95,508	58,588
Prepaid expenses and other current assets	1,791	1,791	959
<b>Total current assets</b>	<b>281,013</b>	<b>132,150</b>	<b>87,937</b>
Restricted cash	2,316	2,316	2,316
Property and equipment, net	8,663	8,663	7,840
Other assets	370	370	888
<b>Total assets</b>	<b>\$ 292,362</b>	<b>\$ 143,499</b>	<b>\$ 98,981</b>
<b>Liabilities and Stockholders' Equity</b>			
Current liabilities:			
Obligations under capital lease	\$ 2,910	\$ 2,910	\$ 2,075
Accounts payable	1,391	1,391	3,022
Accrued expenses	2,755	2,755	3,503
Deferred revenue	--	--	197
<b>Total current liabilities</b>	<b>7,056</b>	<b>7,056</b>	<b>8,797</b>
Obligations under capital lease, excluding current portion	5,617	5,617	4,912
<b>Total liabilities</b>	<b>12,673</b>	<b>12,673</b>	<b>13,709</b>
Commitments (Note H)			
Stockholders' equity:			
Preferred stock, \$.01 par value; 1,000,000 shares authorized; none issued			
Common stock, \$.01 par value; 50,000,000 shares authorized; 21,097,117 and 17,299,139 shares issued and outstanding in 1996 and 1995, respectively. (24,547,117 shares issued and outstanding, pro forma 1996, unaudited)	246	211	173
Additional paid-in capital	376,338	227,510	142,038
Equity adjustments	49	49	--
Accumulated deficit	(96,944)	(96,944)	(56,939)
<b>Total stockholders' equity</b>	<b>279,689</b>	<b>130,826</b>	<b>85,272</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 292,362</b>	<b>\$ 143,499</b>	<b>\$ 98,981</b>

The accompanying notes are an integral part of the consolidated financial statements.



CONSOLIDATED STATEMENTS OF OPERATIONS  
 VERTEX PHARMACEUTICALS INCORPORATED

(In thousands, except per share data)	Year Ended December 31,		
	1996	1995	1994
-----			
Revenues:			
Collaborative and other research and development	\$ 13,341	\$ 22,081	\$ 19,571
Interest income	5,257	5,453	3,574
	-----	-----	-----
Total revenues	18,598	27,534	23,145
-----			
Costs and expenses:			
Research and development	35,212	41,512	34,761
General and administrative	7,929	7,069	5,540
License payment	15,000	--	--
Interest	462	481	439
	-----	-----	-----
Total costs and expenses	58,603	49,062	40,740
-----			
Net loss	\$ (40,005)	\$ (21,528)	\$ (17,595)
-----			
Net loss per common share	\$ (2.13)	\$ (1.25)	\$ (1.11)
Weighted average number of common shares outstanding	18,798	17,231	15,818
-----			

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY  
 VERTEX PHARMACEUTICALS INCORPORATED

(In thousands)	Common Stock		Additional Paid-In Capital	Equity Adjustments	Accumulated Deficit	Total
	Shares	Amount				
Balance, December 31, 1993	12,484	\$ 125	\$ 67,211		\$ (17,816)	\$ 49,520
Issuances of common stock:						
Public offering of common stock	3,450	34	58,028			58,062
Private placement of common stock	1,200	12	14,988			15,000
Benefit plans	61	1	693			694
Repurchases of common stock, at cost	(6)					
Net change in unrealized holding gains/ losses on marketable securities				\$ (205)		(205)
Translation adjustments				2		2
Net loss					(17,595)	(17,595)
Balance, December 31, 1994	17,189	172	140,920	(203)	(35,411)	105,478
Issuances of common stock:						
Benefit plans	93	1	1,118			1,119
Warrant exercise	17					
Net change in unrealized holding gains/ losses on marketable securities				203		203
Net loss					(21,528)	(21,528)
Balance, December 31, 1995	17,299	173	142,038	--	(56,939)	85,272
Issuances of common stock:						
Public offering of common stock	3,450	34	77,481			77,515
Private placement of common stock	152	2	4,998			5,000
Benefit plans	196	2	2,993			2,995
Net change in unrealized holding gains/ losses on marketable securities				35		35
Translation adjustments				14		14
Net loss					(40,005)	(40,005)
Balance, December 31, 1996	21,097	\$ 211	\$227,510	\$ 49	\$ (96,944)	\$130,826

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS  
 VERTEX PHARMACEUTICALS INCORPORATED

(In thousands)	Year Ended December 31,		
	1996	1995	1994
-----			
Cash flows from operating activities:			
Net loss	\$ (40,005)	\$ (21,528)	\$ (17,595)
Adjustment to reconcile net income (loss) to net cash used by operating activities:			
Depreciation and amortization	3,160	3,710	3,485
Changes in assets and liabilities:			
Prepaid expenses and other current assets	(832)	(549)	619
Accounts payable	(1,631)	1,624	(2,080)
Accrued expenses	(748)	1,231	1,106
Deferred revenue	(197)	(438)	(219)
	-----	-----	-----
Net cash provided (used) by operating activities	(40,253)	(15,950)	(14,684)
-----			
Cash flows from investing activities:			
Purchases of short-term investments	(73,035)	(61,862)	(83,850)
Sales and maturities of short-term investments	36,150	38,304	72,346
Deposit to collateralize letter of credit	--	(2,316)	--
Expenditures for property and equipment	(3,983)	(3,078)	(4,230)
Other assets	518	(65)	(690)
	-----	-----	-----
Net cash provided (used) by investing activities	(40,350)	(29,017)	(16,424)
-----			
Cash flows from financing activities:			
Repayment of capital lease obligations	(2,187)	(1,790)	(1,902)
Proceeds from equipment sale/leaseback	3,727	2,385	2,320
Proceeds from public offerings of common stock	77,515	--	58,062
Proceeds from private placement of common stock	5,000	--	15,000
Proceeds from other issuances of capital stock	2,995	1,119	694
	-----	-----	-----
Net cash provided (used) by financing activities	87,050	1,714	74,174
-----			
Effect of exchange rates on cash	14	--	2
-----			
Increase (decrease) in cash and cash equivalents	6,461	(43,253)	43,068
Cash and cash equivalents at beginning of year	28,390	71,643	28,575
-----			
Cash and cash equivalents at end of year	\$ 34,851	\$ 28,390	\$ 71,643
-----			

The accompanying notes are an integral part of the consolidated financial statements.

## A. THE COMPANY

Vertex Pharmaceuticals Incorporated (the "Company") uses a range of drug discovery technologies to identify, design and develop novel, orally deliverable compounds that have the potential to treat major human diseases. To date, the Company has not received any revenues from the sale of pharmaceutical products and does not expect to receive such revenues in the near future. The Company's revenues during 1996 principally resulted from research support payments from corporate partners. The Company expects to incur significant operating losses over the next several years as a result of expenditures for its research and development programs.

The consolidated financial statements include the accounts of the Company and its subsidiaries, Altus Biologics Inc., Vertex Securities Corporation, Vertex Pharmaceuticals (Europe) Limited and Versal Technologies, Inc. All material intercompany transactions are eliminated.

The Company is subject to risks common to companies in the biotechnology industry including, but not limited to, development by the Company or its competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, technological and clinical trial uncertainty, dependence on collaborative partners, share price volatility, the need to obtain additional funding, reliance on pharmaceutical pricing and reimbursement, uncertainties regarding manufacturing and sales and marketing, product liability and compliance with government regulations.

## B. ACCOUNTING POLICIES

## Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reported period. Actual results could differ from those estimates.

## Cash and Cash Equivalents

Cash equivalents, which are debt securities, are valued at cost plus accrued interest. The Company considers all highly liquid investments with original maturities of three months or less at the date of purchase to be cash equivalents. Changes in cash and cash equivalents may be affected by shifts in investment portfolio maturities as well as by actual cash receipts and disbursements.

## Short-term Investments

Short-term investments consist of marketable securities which are classified as available-for-sale. Short-term investments are stated at fair value with unrealized gains and losses included as a component of stockholders' equity until realized. The fair value of these securities is based on quoted market prices.

## Property and Equipment

Property and equipment are recorded at cost. Depreciation and amortization are provided using the straight-line method over the lesser of the lease terms or the estimated useful lives of the related assets, generally four or five years for equipment and furniture and three years for purchased

software. When assets are retired or otherwise disposed of, the assets and related allowances for depreciation and amortization are eliminated from the accounts and any resulting gain or loss is reflected in income.

#### Revenue Recognition

Revenue under research and development arrangements is recognized as earned under the terms of the respective agreements. License payments are recorded when received and the license agreements are signed. Product research funding is recorded as revenue, generally on a quarterly basis, as research effort is incurred. Deferred revenue arises from payments received which have not yet been earned under research and development arrangements. The Company recognizes milestone payments when the milestones are achieved.

#### Research and Development

All research and development costs are expensed as incurred.

#### Income Taxes

The Company provides for federal and state taxes on pretax income at applicable rates in accordance with Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes." Potential future income tax benefits resulting from net operating losses and unused research and experimentation tax credits are available to offset future income.

#### Net Loss per Common Share

Net loss per share is computed on the weighted average number of common shares outstanding during the period.

## C. FINANCIAL INSTRUMENTS

Financial instruments consist of the following at December 31 (in thousands):

	1996		1995	
	Cost	Fair Value	Cost	Fair Value
Cash	\$21,253	\$21,253	\$28,390	\$28,390
Cash equivalents				
Corporate debt securities	13,598	13,598	--	--
Total cash and cash equivalents	\$34,851	\$34,851	\$28,390	\$28,390
Short-term investments				
US Government securities				
Due within 1 year	\$ 7,555	\$ 7,568	\$ 7,622	\$ 7,628
Due within 1 to 5 years	--	--	7,591	7,606
Corporate debt securities				
Due within 1 year	64,140	64,155	29,590	29,486
Due within 1 to 5 years	23,780	23,785	13,787	13,868
Total short-term investments	\$95,475	\$95,508	\$58,590	\$58,588

Gross unrealized holding gains and losses at December 31, 1996, were \$89,000 and \$56,000, respectively, and at December 31, 1995, \$154,000 and \$156,000, respectively. The effect of gross realized gains and losses on the financial statements for the years 1996 and 1995 was immaterial. The cost of securities is based on specific identification.

## D. RESTRICTED CASH

On March 16, 1995, the Company signed a ten-year operating lease for additional facilities to be occupied in 1996. In accordance with the lease agreement, the Company was required to deposit approximately \$2,316,000 with its bank to collateralize a conditional, stand-by letter of credit in the name of the landlord. The letter of credit is redeemable only if the Company defaults on the lease under specific criteria. These funds are restricted from the Company's use during the lease period, although the Company is entitled to all interest earned on the funds.

## E. PROPERTY AND EQUIPMENT

Property and equipment consist of (in thousands):

	December 31,	
	1996	1995
Leasehold improvements	\$ 4,719	\$ 4,558
Furniture and equipment	2,260	2,244
Purchased software	2,418	2,345
Equipment under capital lease	19,303	15,570
	28,700	24,717
Less accumulated depreciation and amortization	20,037	16,877
	\$ 8,663	\$ 7,840

The net book value of equipment under capital lease was \$7,366,000 and \$6,172,000 at December 31, 1996 and 1995, respectively.

## F. CAPITAL LEASES

At December 31, 1996, long-term capital lease obligations were as follows (in thousands):

Year ended December 31,	
-----	
1997	\$3,429
1998	2,358
1999	1,769
2000	1,164
2001	1,030
-----	
Total	9,750
Less amount representing interest payments	1,223
-----	
Present value of minimum lease payments	8,527
Less current portion	2,910
-----	
	\$5,617
-----	

During 1996 and 1995, the Company financed under capital lease arrangements an aggregate of \$3,727,000 and \$2,385,000, respectively, of asset cost under its master lease agreements. These agreements have a term of four or five years, and require that the Company maintain a certain level of cash and investments. At the end of the lease term, the Company has the right to either return the equipment to the lessor or purchase the equipment for fair market value at that time. Interest paid under capital leases was \$462,000 and \$481,000 in 1996 and 1995, respectively. At December 31, 1996, the Company had availability under its 1996 master lease agreement to finance up to an additional \$2,194,000 of equipment.

## G. ACCRUED EXPENSES

Accrued expenses consist of (in thousands):

	December 31,	
	1996	1995
-----		
Professional fees	\$1,196	\$ 759
Development contract costs	317	1,867
Other	1,242	877
-----		
	\$2,755	\$3,503
-----		

## H. COMMITMENTS

## Facilities and Equipment

The Company's facilities are leased under operating leases. The Company's long-term facilities leases have terms through the year 2005 and have noncancelable future minimum payments of \$2,655,000 in 1997, \$2,636,000 in 1998 and 1999, and \$2,033,000 in the years 2000 and 2001. Rental expense was \$3,063,000, \$1,281,000, and \$842,000 in 1996, 1995 and 1994, respectively.

## Software

The Company has certain license and maintenance contracts that contain future, committed payments for the support and upgrade of specific software programs currently used in research. For the years 1997, 1998, 1999, 2000 and 2001, these amounts are \$176,000, \$194,000, \$213,000, \$234,000 and \$258,000, respectively.

## I. INCOME TAXES

The Company's federal statutory income tax rate for 1996, 1995 and 1994 was 34%. The Company recorded no income tax benefit for 1996, 1995 and 1994 due to full valuation allowance recorded against net operating losses.

Deferred tax liabilities and assets are determined based on the difference between financial statement and tax bases using enacted tax rates in effect for the year in which the differences are expected to reverse. The components of the deferred taxes were as follows (in thousands):

	1996	1995
	-----	-----
Net operating loss	\$ 30,567	\$ 17,191
Tax credits carryforward	4,089	3,233
Property, plant and equipment	1,253	1,327
Other	526	416
	-----	-----
Gross deferred tax asset	36,435	22,167
Valuation allowance	(36,435)	(22,167)
	-----	-----
Net deferred tax balance	\$ --	\$ --
	=====	=====

For federal income tax purposes, as of December 31, 1996, the Company has regular tax net operating loss carryforwards of approximately \$89,903,000 and \$4,089,000 of tax credits, which may be used to offset future income. These net operating loss carryforwards expire beginning in 2005, and the tax credit carryforwards begin to expire in 2004.

The amount of tax credits and net operating loss carryforwards that the Company may utilize in any one year is limited, in accordance with Internal Revenue Code Section 382. This limitation arises whenever a cumulative change in ownership in excess of 50% occurs. A change of ownership has occurred which will limit the amount of net operating loss and tax credits available prior to the change. There may also be a second change of ownership subsequent to 1996 which may also limit the amount of net operating loss and tax credit utilization in a subsequent year.

## J. COMMON AND PREFERRED STOCK

## Common Stock

In August 1996, the Company completed a public offering of 3,450,000 shares of its common stock at a price of \$24 per share with net proceeds to the Company of approximately \$77,515,000. In June 1996, Glaxo Wellcome purchased 151,792 shares of the Company's common stock at a price of \$32.94 per share, with net proceeds to the Company of approximately \$5,000,000. In November 1994, the Company sold an additional 1,200,000 shares of common stock in a private placement to a subsidiary of BB Biotech AG at a price of \$12.50 per share, with net proceeds to the Company of approximately \$15,000,000. In February 1994, the Company sold 3,450,000 shares of its \$.01 par value common stock in an underwritten public offering at a price to the public of \$18.00 per share, with net proceeds to the Company of approximately \$58,062,000.



During 1996, an additional 100,000 shares were reserved for the Company's 401(k) Plan and an additional 150,000 shares were reserved for the Company's Employee Stock Purchase Plan. At December 31, 1996, 5,813,988 shares of the Company's common stock were reserved for exercise of common stock options granted or to be granted under its 1991 Stock Option Plan, 1994 Stock and Option Plan, and 1996 Stock and Option Plan, 48,999 shares were reserved for exercise of certain other options granted in 1991, 125,955 shares of common stock were reserved for issuance under the Company's 401(k) Plan, and 140,111 shares of common stock were reserved for issuance under the Company's Employee Stock Purchase Plan.

#### Stock Option Plans

The Company applies APB Opinion No. 25 and related interpretations in accounting for its plans. However, pro forma disclosures as if the Company adopted the cost recognition requirements under FASB Statement No. 123 "Accounting for Stock-Based Compensation" ("SFAS 123") in 1996 and 1995 are presented below. No compensation expense was recognized for these plans in 1996, 1995 and 1994.

The Company's 1991 Stock Option Plan (the "1991 Plan"), reserved shares for granting up to 2,000,000 options as either options intended to qualify as "incentive stock options" under the Internal Revenue Code or non-qualified stock options. The Company's 1994 Stock and Option Plan (the "1994 Plan") reserved an additional 2,000,000 shares to the number of shares previously reserved under the 1991 Plan which are not granted under the plan or which cease to be outstanding by reason of cancellation. The Company's 1996 Stock and Option Plan (the "1996 Plan"; together with the 1991 Plan and the 1994 Plan, the "Plans") reserved an additional 2,000,000 shares to the 1991 Plan and the 1994 Plan. Under the 1994 Plan and the 1996 Plan, stock rights, which are either (i) incentive stock options, (ii) non-qualified stock options ("NQSOS"), or (iii) award shares of common stock or the opportunity to make a direct purchase of shares of common stock ("Stock Awards"), may be granted to employees (including officers and directors who are employees), consultants, advisors and non-employee directors (NQSOS and stock awards only), either as options intended to qualify as "incentive stock options" under the Internal Revenue Code or as non-qualified stock options. Incentive stock options granted under the Plans may not be granted at a price less than the fair market value of the common stock on the date of grant. Non-qualified stock options may be granted at an exercise price established by the Compensation Committee of the Board of Directors, which may be less than, equal to or greater than the fair value of the common stock on the date of grant. Vesting periods, generally four or five years, are determined by the Compensation Committee. Incentive stock options granted under the Plans must expire not more than ten years from the date of grant.

Stock option activity for the years ended December 31, 1996, 1995 and 1994 is as follows (shares in thousands):

	1996		1995		1994	
	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
Outstanding at beginning of year	3,196	\$14.63	2,523	\$13.13	1,660	\$13.36
Granted	1,056	\$31.11	829	\$18.77	935	\$12.64
Exercised	(139)	\$12.96	(42)	\$11.48	(10)	\$ 9.72
Canceled	(80)	\$16.11	(114)	\$12.51	(62)	\$12.46
Outstanding at end of year	4,033	\$18.98	3,196	\$14.63	2,523	\$13.13
Options exercisable at year-end	1,625	\$13.92	1,152	\$12.99	662	\$12.74
Weighted average fair value of options granted during the year	\$15.04		\$9.05			

The fair value of each option granted during 1996 and 1995 was estimated on the date of grant using the Black-Scholes option-pricing model with the following weighted average assumptions: (1) expected life of 5.41 years (2) expected volatility of 42% (3) risk-free interest rate of 6.30% and (4) no dividend yield.

The following table summarizes information about stock options outstanding and exercisable at December 31, 1996 (shares in thousands):

Range of exercise prices	Options Outstanding			Options Exercisable	
	Number Outstanding	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
\$ 6.48 - \$ 9.72	145	6.1	\$ 8.28	133	\$ 8.33
\$ 9.73 - \$14.58	1,291	7.3	\$12.25	822	\$12.22
\$14.59 - \$21.87	1,538	7.9	\$17.30	644	\$16.48
\$21.88 - \$32.80	1,002	9.8	\$30.73	10	\$25.95
\$32.81 - \$37.50	57	9.5	\$37.17	16	\$37.14
\$ 6.48 - \$37.50	4,033	8.1	\$18.98	1,625	\$13.92

#### Employee Stock Purchase Plan

Under the Company's Employee Stock Purchase Plan, substantially all permanent employees may, through payroll withholdings, purchase shares of the Company's common stock at a price of 85% of the lesser of fair market value at the beginning or end of each six-month withholding period.

During 1996, 32,296 shares of common stock at an average price of \$19.21 per share were issued to employees under the plan. During 1995, 42,445 shares of common stock at a price of \$11.26 per share were issued to employees under the plan. During 1994, 34,263 shares were issued at an average price of \$10.73 per share. Had the Company adopted SFAS 123, the weighted average fair value of each purchase right granted during 1996 and 1995 would have been \$5.76 and \$3.25, respectively. The fair value was estimated at the beginning of the withholding period using the Black-Scholes option-pricing model with the following weighted average assumptions: (1) expected life of one half year for both years (2) expected volatility of 41% and 35% for 1996 and 1995 respectively (3) risk-free interest rate of 5.50% for both years and (4) no dividend yield.

#### Pro forma Disclosures

Had compensation cost for the Company's 1996 and 1995 grants for stock-based compensation plans been determined consistent with SFAS 123, the Company's net loss and net loss per share for 1996 and 1995 would approximate the pro forma amounts below (in thousands except per share data):

		1996 ----	1995 ----
Net loss	As reported	\$ (40,005)	\$ (21,528)
	Pro forma	\$ (42,025)	\$ (21,750)
Net loss per share	As reported	\$ (2.13)	\$ (1.25)
	Pro forma	\$ (2.24)	\$ (1.26)

The effects of applying SFAS 123 in this pro forma disclosure are not indicative of future amounts. SFAS 123 does not apply to awards prior to 1995, and additional awards in future years are anticipated.

#### Warrants

During 1995, all remaining warrants, originally issued in connection with equipment lease financing transactions, were exercised in non-cash, net exercise transactions to acquire an aggregate of 16,801 shares of common stock.

#### Rights

Pursuant to the Company's Stockholder Rights Plan, under an amendment approved by the Board of Directors on February 18, 1997, but not yet executed by the rights agent, each holder of a share of outstanding common stock also holds one share purchase right (a "Right") for each share of common stock. Each Right entitles the holder to purchase from the Company one one-hundredth of a share of Series A junior participating preferred stock, \$.01 par value (the "Junior Preferred Shares"), of the Company at a price of \$270 per one one-hundredth of a Junior Preferred Share (the "Purchase Price"). The Rights are not exercisable until the earlier of acquisition by a person or group of 15% or more of the outstanding common stock (an "Acquiring Person") or the announcement of an intention to make or commencement of a tender offer or exchange offer the consummation of which would result in the beneficial ownership by a person or group of 15% or more of the outstanding common stock. In the event that any person or group becomes an Acquiring Person, each holder of a Right other than the Acquiring Person will thereafter have the right to receive upon exercise that number of shares of common stock having a market value of two times the Purchase Price and, in the event that the Company is acquired in a business combination transaction or 50% or more of its assets are sold, each holder of a Right will thereafter have the right to receive upon exercise that number of shares of common stock of the acquiring company which at the time of the transaction will have a market value of two times the Purchase Price. Under certain specified circumstances, the Board of Directors of the Company may cause the Rights (other than Rights owned by such person or group) to be exchanged, in

whole or in part, for common stock or Junior Preferred Shares, at an exchange rate of one share of common stock per Right or one one-hundredth of a Junior Preferred Share per Right. At any time prior to the acquisition by a person or group of beneficial ownership of 15% or more of the outstanding common stock, the Board of Directors of the Company may redeem the Rights in whole at a price of \$.01 per Right.

#### K. COLLABORATIVE RESEARCH AND DEVELOPMENT AGREEMENTS

The Company and BioChem Therapeutic Inc. ("BioChem") are collaborating on the development and commercialization in Canada of VX-710, Vertex's lead multidrug resistance reversal agent. Under the development agreement, BioChem is obligated to pay Vertex up to \$4,000,000 comprised of an initial licensing fee and payments for development and commercialization milestones. From the inception of the agreement in May 1996 through the year ended December 31, 1996, \$500,000 has been recognized as revenue. BioChem will fund development of VX-710 in Canada, including planned Phase II clinical trials in two different cancer indications. Vertex will supply BioChem's clinical and commercial drug supply needs. In 1996, the Company received additional revenues related to the sale of clinical trial material to BioChem. BioChem will pay Vertex a portion of its net sales, which will cover Vertex's cost of supplying material and will provide a profit to Vertex. Revenues earned from BioChem were \$577,000 in 1996.

The Company and Alpha Therapeutic Corporation ("Alpha") are collaborating on the development and commercialization of VX-366 for the treatment of sickle cell disease and beta thalassemia. Under the collaborative agreement, Alpha is obligated to pay the Company up to \$5,000,000 comprised of an initial license fee and payments for development and commercialization milestones. From the inception of the agreement in October 1995 through the year ended December 31, 1996, \$500,000 has been recognized as revenue. In addition, Alpha is obligated to bear all costs of development of VX-366 under the collaboration. In 1996, the Company received additional revenues related to the sale of clinical trial material to Alpha. Alpha has the right to terminate the agreement without cause upon six months' notice at any time. Termination will relieve Alpha of any further payment obligations under the agreement and will end the license granted to Alpha by Vertex. Vertex will supply Alpha's finished drug product needs and will receive a royalty based on Alpha's product sales. Revenues earned from Alpha were \$225,000 and \$500,000 in 1996 and 1995, respectively.

The Company and Glaxo Wellcome plc ("Glaxo Wellcome") are collaborating on the development of compounds in connection with the Company's HIV Program. Under the collaborative agreement, Glaxo Wellcome agreed to pay the Company up to \$42,000,000 comprised of a \$15,000,000 initial license payment paid in 1993, \$14,000,000 of product research funding over five years and \$13,000,000 of development and commercialization milestone payments. From the inception of the agreement in December 1993 through the year ended December 31, 1996, \$25,000,000, including a \$2,000,000 milestone payment in December 1995 upon commencement of a Phase I/II trial, has been recognized as revenue. Glaxo Wellcome is also obligated to pay to Vertex additional development and commercialization milestone payments for subsequent drug candidates. In addition, Glaxo Wellcome agreed to bear all costs of development of drug candidates under the collaboration. In 1994, 1995 and 1996, the Company received additional revenue related to reimbursements for clinical development. Under the agreement, Glaxo Wellcome is also required to pay Vertex a royalty on sales. Glaxo Wellcome has the right to terminate the research collaboration without cause upon twelve months' notice given at any time and has the right to terminate the license arrangements without cause upon twelve months' notice given at any time provided such notice is not given before the research collaboration has been terminated. Termination by Glaxo Wellcome of the research collaboration will relieve Glaxo Wellcome of its obligation to make further research support payments under the agreement. Termination by Glaxo Wellcome of the license arrangements under the agreement will relieve it of its obligation to make further commercialization and development milestone and royalty payments and will end any

license granted to Glaxo Wellcome by Vertex thereunder. Revenues earned from Glaxo Wellcome were \$6,289,000, \$10,053,000 and \$5,346,000 for 1996, 1995 and 1994. In June 1996, the Company and Glaxo Wellcome obtained a worldwide, non-exclusive license under certain G.D. Searle & Co. ("Searle") patent applications in the area of HIV protease inhibition. Vertex paid \$15,000,000 and Glaxo Wellcome paid \$10,000,000 to Searle for the license. The Company also agreed to pay Searle a royalty on sales of VX-478, the Company's lead HIV compound.

The Company and Hoechst Marion Roussel ("HMR") are collaborating on the development of interleukin-1 beta converting enzyme inhibitors as anti-inflammatory agents. Under the collaborative agreement, HMR is obligated to pay the Company up to \$30,500,000, comprised of \$18,500,000 of product research funding over five years and \$12,000,000 of development and commercialization milestone payments. From the inception of the agreement in September 1993 through the year ended December 31, 1996, \$14,500,000 has been recognized as revenue. HMR has the right to terminate the agreement without cause upon twelve months' notice at any time. For a period of one year after any such termination, HMR retains the right to select one or more compounds for development and to license such compound or compounds from Vertex, provided HMR resumes all research funding and commercialization milestone payments and makes all such payments that would otherwise have been due but for such termination. Otherwise, in the case of such termination, all rights to compounds developed under the research and license agreements will revert to Vertex. The Company also received additional revenue related to reimbursement for patent filings in HMR's territories. Revenues earned under the HMR agreement were \$4,196,000, \$3,749,000, and \$3,514,000 in 1996, 1995 and 1994, respectively.

The Company and Kissei Pharmaceutical Co., Ltd. ("Kissei") are collaborating on the research and development of compounds in connection with the Company's HIV Program. Under the collaborative agreement, Kissei is obligated to pay the Company up to \$20,000,000, comprised of \$9,800,000 of product research funding through 1995, \$7,000,000 of development milestone and territory option payments and a \$3,200,000 equity investment. In December 1995, Vertex recognized \$2,700,000 in revenue which represented a territory option payment Kissei exercised for the rights to develop VX-478 in certain other Far East countries in addition to Japan and the People's Republic of China. From the inception of the agreement in April 1993 through the year ended December 31, 1996, \$17,842,000 has been received including \$3,200,000 as an equity investment and \$14,642,000 was recognized as revenue. The Company received additional revenue related to reimbursements for clinical development in 1996, 1995 and 1994. Under the collaboration, Kissei is also required to pay Vertex a royalty on sales. Revenues earned under the Kissei agreement were \$692,000, \$5,370,000, and \$5,498,000 in 1996, 1995 and 1994, respectively. Product research funding under this agreement ended at December 31, 1995.

The Company and Chugai Pharmaceutical Co., Ltd. ("Chugai") entered into a collaborative agreement for research and development of immunosuppressive compounds in conjunction with Vertex's Autoimmune Diseases Program. Under the collaborative agreement, Chugai agreed to pay Vertex up to \$30,300,000, composed of \$19,300,000 of product research funding until 1995, \$9,000,000 of development and commercialization milestone payments and a \$2,000,000 equity investment. Research funding under this agreement ended in the first half of 1995 and the research collaboration ended in October of 1995. Revenues earned under the Chugai Agreement were \$34,000, \$1,915,000, and \$4,969,000 in 1996, 1995 and 1994, respectively. All of the research funding received from Chugai has been applied to defray costs of the collaborative research program.

#### L. EMPLOYEE BENEFITS

The Company has a 401(k) retirement plan in which substantially all of its permanent employees are eligible to participate. Participants may contribute up to 15% of their annual compensation to the plan, subject to statutory limitations. For 1996, the Company declared discretionary matching contributions to the plan in the aggregate amount of \$444,000, payable in the form of shares of the Company's common stock. Of these shares, 7,013 were issued as of December 31, 1996 with the remaining 5,734 issuable in 1997. For 1995, the Company declared discretionary matching contributions to the plan in the aggregate amount of \$354,000, payable in the form of 17,469 shares of the Company's common stock, issued in 1996. For 1994, the Company declared discretionary matching contributions to the plan in the aggregate amount of \$263,000, payable in the form of shares of the Company's common stock. Of these shares, 10,063 were issued as of December 31, 1994 with the remaining 9,750 issued in 1995.

#### M. RELATED PARTY

A sibling of the Company's president is a partner in the law firm representing the Company to which \$472,000, \$255,000, and \$437,000 in legal fees were paid in 1996, 1995 and 1994, respectively.

#### N. SUBSEQUENT EVENT (UNAUDITED)

On March 12, 1997, the Company completed a public offering of 3,450,000 shares of its common stock. The Company anticipates using the net proceeds of approximately \$148,863,000 primarily to fund research and product development programs, including clinical trials, and for general corporate purposes. The unaudited pro forma balance sheet of the Company as of December 31, 1996 has been adjusted to reflect the issuance and sale of 3,450,000 shares of common stock on March 12, 1997 and receipt of the net proceeds therefrom.

## EXHIBITS.

EXHIBIT NUMBER - - - - -	EXHIBIT DESCRIPTION - - - - -
3.1	Restated Articles of Organization (filed as Exhibit 3.1 to the Company's Registration Statement on Form S-1 (Registration No. 33-43874) and incorporated herein by reference).
3.2	Articles of Amendment filed with the Commonwealth of Massachusetts on May 17, 1995 (filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1995 (File No. 0-19319) and incorporated herein by reference).
3.3	By-laws of the Company (filed as Exhibit 3.2 to the Company's Registration Statement on Form S-1 (Registration No. 33-43874) and incorporated herein by reference).
3.4	Certificate of Vote of Directors Establishing a Series of a Class of Stock, as filed with the Secretary of the Commonwealth of Massachusetts on July 31, 1991 (filed as Exhibit 3.3 to the Company's Registration Statement on Form S-1 (Registration No. 33-43874) and incorporated herein by reference).
4.1	Specimen stock certificate (filed as Exhibit 4.1 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).
4.2	Stockholder Rights Plan (filed as Exhibit 4.2 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).
4.3	First Amendment to Rights Agreement dated as of February 21, 1997 (filed herewith).
10.1	1991 Stock Option Plan, as amended and restated as of May 13, 1993 (filed as Exhibit 28.1 to the Company's Registration Statement on Form S-8 (No. 33-65742) and incorporated herein by reference).*
10.2	1994 Stock and Option Plan (filed as Exhibit 10.2 to the Company's 1994 Annual Report on Form 10-K (File No. 0-19319) and incorporated herein by reference).*
10.3	1996 Stock and Option Plan (filed herewith).
10.4	Non-Competition and Stock Repurchase Agreement between the Company and Joshua Boger, dated April 20, 1989 (filed as Exhibit 10.2 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).*
10.6	Form of Employee Stock Purchase Agreement (filed as Exhibit 10.3 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).*
10.7	Form of Employee Non-Disclosure and Inventions Agreement (filed as Exhibit 10.4 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).
10.8	Form of Executive Employment Agreement executed by Richard H. Aldrich, Joshua S.

Boger, and Vicki L. Sato (filed as Exhibit 10.6 to the Company's 1994 Annual Report on Form 10-K (File No. 0-19319) and incorporated herein by reference).\*

- 10.9 Form of Amendment to Employment Agreement executed by Richard H. Aldrich, Joshua S. Boger and Vicki L. Sato (filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1995 (File No. 0-19319) and incorporated herein by reference).
- 10.10 Series C Convertible Preferred Stock Purchase Agreement between the Company and the party named therein, dated September 21, 1990 (filed as Exhibit 10.8 to the Company's Registration Statement on Form S-1 (Registration No. 33-40966) or amendments thereto and incorporated herein by reference).
- 10.11 Stock Purchase Agreement dated November 10, 1994 between the Company and Biotech Target S.A. (filed as Exhibit 10.12 to the Company's 1994 Annual Report on Form 10-K (File No. 0-19319) and incorporated herein by reference).
- 10.12 Lease dated October 1, 1992 between C. Vincent Vappi and the Company relating to the premises at 40 Allston Street, 618 Putnam Street, 228 Sidney Street, and 240 Sidney Street (filed as Exhibit 10.14 to the Company's Annual Report on Form 10-K for the year ended December 31, 1992 (File No. 0-19319) and incorporated herein by reference).
- 10.13 First Amendment as of March 1, 1995 to the lease between C. Vincent Vappi and the Company (filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1995 (File No. 0-19319) and incorporated herein by reference).
- 10.14 Second Amendment as of February 12, 1997 to Lease between C. Vincent Vappi and the Company (filed herewith).
- 10.15 Lease dated March 1, 1993, between Fort Washington Realty Trust and the Company, relating to the premises at 625 Putnam Avenue, Cambridge, MA (filed as Exhibit 10.10 to the Company's Annual Report on Form 10-K for the year ended December 31, 1993 (File No. 0-19319) and incorporated herein by reference).
- 10.16 First Amendment, dated 1 December 1996, to Lease between Fort Washington Realty Trust and the Company dated 1 March 1993 (filed herewith).
- 10.17 Lease dated March 3, 1995, between Fort Washington Realty Trust and the Company, relating to the premises at 130 Waverly Street, Cambridge, MA (filed as Exhibit 10.15 to the Company's 1994 Annual Report on Form 10-K (File No. 0-19319) and incorporated herein by reference).
- 10.18 First Amendment to Lease dated March 3, 1995 between Fort Washington Realty Trust and the Company (filed as Exhibit 10.15 to the Company's 1995 Annual Report on Form 10-K (File No. 0-19319) and incorporated herein by reference).
- 10.19 Research and Development Agreement dated April 13, 1993 between the Company and Kissei Pharmaceutical Co., Ltd. (with certain confidential information deleted) (filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 1993 (File No. 0-19319) and incorporated herein by reference).
- 10.20 Research, Development, and License Agreement dated September 8, 1993 between the



Company and Roussel Uclaf (with certain confidential information deleted) (filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 1993 (File No. 0-19319) and incorporated herein by reference).

- 10.21 License Agreement dated August 6, 1993 between the Company and Children's Hospital Medical Center of Northern California (with certain confidential information deleted) (filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 1993 (File No. 0-19319) and incorporated herein by reference).
- 10.22 Research Agreement and License Agreement, both dated December 16, 1993, between the Company and Burroughs Wellcome Co. (with certain confidential information deleted) (filed as Exhibit 10.16 to the Company's Annual Report on Form 10-K for the year ended December 31, 1993 (File No. 0-19319) and incorporated herein by reference).
- 10.23 License Agreement dated October 2, 1995 between the Company and Alpha Therapeutic Corporation (with certain confidential information deleted) (filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 1995 (File No. 0-19319) and incorporated herein by reference).
- 10.24 License Agreement and Supply Agreement, both dated May 9, 1996, between the Company and BioChem Pharma (International) Inc. (with certain confidential information deleted) (filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 1996 (File No. 0-19319) and incorporated herein by reference).
- 21 Subsidiaries of the Company (filed as Exhibit 21 to the Company's Annual Report on Form 10-K for the year ended December 31, 1995 (File no. 0-19319) and incorporated herein by reference).
- 23 Consent of Independent Accountants (filed herewith).
- 27 Financial Data Schedule (submitted as an exhibit only in the electronic format of this Annual Report on Form 10-K submitted to the Securities and Exchange Commission).

\* Compensatory plan or agreement applicable to management and employees.

## FIRST AMENDMENT TO RIGHTS AGREEMENT

AMENDMENT, dated as of February 21, 1997, to the Rights Agreement, dated as of July 1, 1991 (the "Rights Agreement"), between Vertex Pharmaceuticals Incorporated, a Massachusetts corporation (the "Company"), and The First National Bank of Boston, as Rights Agent (the "Rights Agent").

The Company and the Rights Agent have heretofore executed and entered into the Rights Agreement. Pursuant to Section 27 of the Rights Agreement, the Company and the Rights Agent may from time to time supplement or amend the Rights Agreement in accordance with the provisions of Section 27 thereof. All acts and things necessary to make this Amendment a valid agreement, enforceable according to its terms, have been done and performed, and the execution and delivery of this Amendment by the Company and the Rights Agent have been in all respects duly authorized by the Company and the Rights Agent.

In consideration of the foregoing and the mutual agreements set forth herein, the parties hereto agree as follows:

1. Section 1(a) of the Rights Agreement is hereby amended in its entirety to read as follows:

(a) "Acquiring Person" shall mean any Person (as hereinafter defined) who or which, together with all Affiliates and Associates (as such terms are hereinafter defined) of such Person, shall be the Beneficial Owner (as hereinafter defined) of 15% or more of the Common Shares of the Company then outstanding, but shall not include the Company, any Subsidiary (as hereinafter defined) of the Company, any employee benefit plan of the Company or any Subsidiary of the Company, any entity holding Common Shares for or pursuant to the terms of any such plan, or any Person who, alone or together, with all Affiliates and Associates of such Person, is, as of the date of this Agreement, the Beneficial Owner of 15% or more of the Common Shares of the Company then outstanding. Notwithstanding the foregoing, no Person shall become an "Acquiring Person" as a result of an acquisition of Common Shares by the Company which, by reducing the number of shares outstanding, increases the proportionate number of shares beneficially owned by such Person to 15% or more of the Common Shares of the Company then outstanding; provided, however, that if a Person shall become the Beneficial Owner of 15% or more of the Common Shares of the Company then outstanding by reason of share purchases by the Company and shall, after such share purchases by the Company, become the Beneficial Owner of any additional Common Shares of the Company, then such Person shall be deemed to be an "Acquiring Person".

2. Section 3(a) of the Rights Agreement is hereby amended in its entirety to read as follows:

(a) Until the earlier of (i) the tenth day after the Shares Acquisition Date or (ii) the tenth business day (or such later date as may be determined by action of the Board of Directors prior to such time as any Person becomes an Acquiring Person) after the date of the commencement by any Person (other than the Company, any Subsidiary of the Company, any employee benefit plan of the Company or of any Subsidiary of the Company or any entity holding Common Shares for or

pursuant to the terms of any such plan) of, or of the first public announcement of the intention of any Person (other than the Company, any Subsidiary of the Company, any employee benefit plan of the Company or of any Subsidiary of the Company or any entity holding Common Shares for or pursuant to the terms of any such plan) to commence, a tender or exchange offer the consummation of which would result in any Person becoming the Beneficial Owner of Common Shares aggregating 15% or more of the then outstanding Common Shares (including any such date which is after the date of this Agreement and prior to the issuance of the Rights; the earlier of such dates being herein referred to as the "Distribution Date"), (x) the Rights will be evidenced (subject to the provisions of Section 3(b) hereof) by the certificates for Common Shares registered in the names of the holders thereof (which certificates shall also be deemed to be Right Certificates) and not by separate Right Certificates, and (y) the right to receive Right Certificates will be transferable only in connection with the transfer of Common Shares. As soon as practicable after the Distribution Date, the Company will prepare and execute, the Rights Agent will countersign, and the Company will send or cause to be sent (and the Rights Agent will, if requested, send) by first-class, insured, postage-prepaid mail, to each record holder of Common Shares as of the close of business on the Distribution Date, at the address of such holder shown on the records of the Company, a Right Certificate, in substantially the form of Exhibit B hereto (a "Right Certificate"), evidencing one Right for each Common Share so held. As of the Distribution Date, the Rights will be evidenced solely by such Right Certificates.

3. Section 7(b) of the Rights Agreement is hereby modified and amended by deleting the amount \$60 and substituting \$270 therefore. There shall be no adjustment to the Purchase Price as set forth in Section 7(b), as modified and amended hereby, pursuant to Section 11(a)(i) with respect to any event described in Section 11(a)(i) which occurred prior to the date of this Amendment.

4. If any term, provision, covenant or restriction of this Amendment is held by a court of competent jurisdiction or other authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Amendment, and the Rights Agreement, shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

5. This Amendment shall be deemed to be a contract made under the laws of the Commonwealth of Massachusetts and for all purposes shall be governed by and construed in accordance with the laws of such Commonwealth applicable to contracts to be made and performed entirely within such Commonwealth.

6. This Amendment may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument.

7. In all respects not inconsistent with the terms and provisions of this Amendment to the Rights Agreement, the Rights Agreement is hereby ratified, adopted, approved and confirmed. In executing and delivering this Amendment, the Rights Agent shall be entitled to all the privileges and immunities afforded to the Rights Agent under the terms and conditions of the Rights Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and attested, all as of the date and year first above written.

Attest:

VERTEX PHARMACEUTICALS  
INCORPORATED

By: /s/ Sarah P. Cecil

By: /s/ Richard H. Aldrich

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Name: Sarah P. Cecil

-----  
Name: Richard H. Aldrich

Title: Corporate Attorney

Title: Senior Vice President

Attest:

THE FIRST NATIONAL BANK OF BOSTON

By: /s/ Jocelyn J. Turner

By: /s/ Colleen H. Shea

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Name:

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Name:

Title: Account Manager

Title: Administration Manager

## VERTEX PHARMACEUTICALS INCORPORATED

## 1996 STOCK AND OPTION PLAN

(as amended on February 18, 1997 and restated)

## 1. DEFINITIONS

Unless otherwise specified or unless the context otherwise requires, the following terms, as used in this Vertex Pharmaceuticals Incorporated 1996 Stock and Option Plan, have the following meanings:

Affiliate means a corporation which, for purposes of Section 424 of the Code, is a parent or subsidiary of the Company, direct or indirect.

Board of Directors means the Board of Directors of the Company.

Code means the United States Internal Revenue Code of 1986, as amended.

Committee means the Compensation Committee of the Board of Directors or any successor thereto appointed by the Board of Directors pursuant to Section 4 hereof to administer this Plan.

Common Stock means shares of the Company's common stock, \$.01 par value.

Company means Vertex Pharmaceuticals Incorporated, a Massachusetts corporation.

Disability or Disabled means permanent and total disability as defined in Section 22(e)(3) of the Code.

Exchange Act means the Securities Exchange Act of 1934, as amended.

Fair Market Value of a Share of Common Stock on a particular date shall be the mean between the highest and lowest quoted selling prices on such date (the "valuation date") on the securities market where the Common Stock of the Company is traded, or if there were no sales on the valuation date, on the next preceding date within a reasonable period (as determined in the sole discretion of the Committee) on which there were sales. In the event that there were no sales in such a market within a reasonable period, the fair market value shall be as determined in good faith by the Committee in its sole discretion.

ISO means an option intended to qualify as an incentive stock option under Code Section 422.

Key Employee means an employee of the Company or of an Affiliate (including, without limitation, an employee who is also serving as an officer or director of the Company or of an Affiliate), designated by the Committee to be eligible to be granted one or more Stock Rights under the Plan.

NQSO means an option which is not intended to qualify as an ISO.

Non-Employee Director means a member of the Board of Directors who is not an employee of the Company or any Affiliate.

Option means an ISO or NQSO granted under the Plan.

Participant means a Key Employee, Non-Employee Director, consultant or advisor of the Company to whom one or more Stock Rights are granted under the Plan. As used herein, "Participant" shall include "Participant's Survivors" and a Participant's permitted transferees where the context requires.

Participant's Survivors means a deceased Participant's legal representatives and/or any person or persons who acquires the Participant's rights to a Stock Right by will or by the laws of descent or distribution.

Plan means this Vertex Pharmaceuticals Incorporated 1996 Stock and Option Plan, as amended from time to time.

Shares means shares of the Common Stock as to which Stock Rights have been or may be granted under the Plan or any shares of capital stock into which the Shares are changed or for which they are exchanged within the provisions of Section 3 of the Plan. The Shares issued upon exercise of Stock Rights granted under the Plan may be authorized and unissued shares or shares held by the Company in its treasury, or both.

Stock Agreement means an agreement between the Company and a Participant executed and delivered pursuant to the Plan, in such form as the Committee shall approve.

Stock Award means an award of Shares or the opportunity to make a direct purchase of Shares of the Company granted under the Plan.

Stock Right means a right to Shares of the Company granted pursuant to the Plan as an ISO, an NQSO or a Stock Award.

## 2. PURPOSES OF THE PLAN

The Plan is intended to encourage ownership of Shares by Key Employees, Non-Employee Directors and certain consultants and advisors to the Company in order to attract such persons, to induce them to work for the benefit of the Company or of an Affiliate and to provide additional incentive for them to promote the success of the Company or of an Affiliate. The Plan provides for the granting of Stock Rights to Key Employees, Non-Employee Directors, consultants and advisors of the Company.

## 3. SHARES SUBJECT TO THE PLAN

The number of Shares subject to this Plan as to which Stock Rights may be granted from time to time shall be 2,000,000 plus the number of shares of Common Stock previously reserved for the granting of options under the Vertex Pharmaceuticals Incorporated 1991 Stock Option Plan and 1994 Stock and Option Plan but not granted thereunder, or the equivalent of such number of Shares after the Committee, in its sole discretion, has interpreted the effect of any stock split, stock dividend, combination, recapitalization or similar transaction in accordance with Section 17 of this Plan.

If an Option granted hereunder or any option granted under the 1991 Stock Option Plan or 1994 Stock and Option Plan ceases to be "outstanding", in whole or in part, or if the Company shall reacquire any Shares issued pursuant to Stock Awards, the Shares which were subject to such Option and any Shares so reacquired by the Company shall also be available for the granting of other Stock Rights under the Plan. Any Stock Right shall be treated as "outstanding" until such Stock Right is exercised in full, or terminates or expires under the provisions of the

Plan, or by agreement of the parties to the pertinent Stock Agreement, without having been exercised in full.

#### 4. ADMINISTRATION OF THE PLAN

The Plan shall be administered by the Committee. Subject to the provisions of the Plan, the Committee is authorized to:

- a. Interpret the provisions of the Plan or of any Option, Stock Award or Stock Agreement and to make all rules and determinations which it deems necessary or advisable for the administration of the Plan;
- b. Determine which employees of the Company or of an Affiliate shall be designated as Key Employees and which of the Key Employees, Non-Employee Directors, consultants and advisors of the Company and its Affiliates shall be granted Stock Rights;
- c. Determine the number of Shares and exercise price for which a Stock Right or Stock Rights shall be granted;
- d. Specify the terms and conditions upon which a Stock Right or Stock Rights may be granted; and
- e. In its discretion, accelerate the date of exercise of any installment of any Stock Right; provided that the Committee shall not accelerate the exercise date of any installment of any Option granted to any Key Employee as an ISO (and not previously converted into an NQSO pursuant to Section 20) if such acceleration would violate the annual vesting limitation contained in Section 422(d) of the Code, as described in Section 6.2.3.

provided, however, that all such interpretations, rules, determinations, terms and conditions shall be made and prescribed in the context of preserving the tax status under Code Section 422 of those Options which are designated as ISOs and shall be in compliance with any applicable provisions of Rule 16b-3 under the Exchange Act. Subject to the foregoing, the interpretation and construction by the Committee of any provisions of the Plan or of any Stock Right granted under it shall be final, unless otherwise determined by the Board of Directors, if the Committee is other than the Board of Directors.

The Committee may employ attorneys, consultants, accountants or other persons, and the Committee, the Company and its officers and directors shall be entitled to rely upon the advice, opinions or valuations of such persons. All actions taken and all interpretations and determinations made by the Committee in good faith shall be final and binding upon the Company, all Participants, and all other interested persons. No member or agent of the Committee shall be personally liable for any action, determination, or interpretation made in good faith with respect to this Plan or grants hereunder. Each member of the Committee shall be indemnified and held harmless by the Company against any cost or expense (including counsel fees) reasonably incurred by him or liability (including any sum paid in settlement of a claim with the approval of the Company) arising out of any act or omission to act in connection with this Plan unless arising out of such member's own fraud or bad faith. Such indemnification shall be in addition to any rights of indemnification the members of the Committee may have as directors or otherwise under the by-laws of the Company, or any agreement, vote of stockholders or disinterested directors, or otherwise.

## 5. ELIGIBILITY FOR PARTICIPATION

The Committee shall, in its sole discretion, name the Participants in the Plan, provided, however, that each Participant must be a Key Employee, Non-Employee Director, consultant or advisor of the Company or of an Affiliate at the time a Stock Right is granted. Notwithstanding the foregoing, the Committee may authorize the grant of a Stock Right to a person not then an employee, Non-Employee Director, consultant or advisor of the Company or of an Affiliate; provided, however, that the actual grant of such Stock Right shall be conditioned upon such person becoming eligible to become a Participant at or prior to the time of execution of the Stock Agreement evidencing such Stock Right. The granting of any Stock Right to any individual shall neither entitle that individual to, nor disqualify him or her from, participation in other grant of Stock Rights. Notwithstanding anything to the contrary contained in this Plan, no Stock Rights shall be granted to any director or officer of the Company except in accordance with the applicable rules of the Nasdaq Stock Market or other securities market where the Common Stock is traded.

## 6. TERMS AND CONDITIONS OF OPTIONS

6.1 General. Each Option shall be set forth in writing in a Stock Agreement, duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Committee may provide that Options be granted subject to such conditions as the Committee may deem appropriate including, without limitation, subsequent approval by the shareholders of the Company of this Plan or any amendments thereto, provided, however, that the option price per share of the Shares covered by each Option shall not be less than the par value per share of the Common Stock. Each Stock Agreement shall state the number of Shares to which it pertains, the date or dates on which it first is exercisable and the date after which it may no longer be exercised. Option rights may accrue or become exercisable in installments over a period of time, or upon the achievement of certain conditions or the attainment of stated goals or events. Exercise of any Option may be conditioned upon the Participant's execution of a Share purchase agreement in form satisfactory to the Committee providing for certain protections for the Company and its other shareholders, including requirements that the Participant's or the Participant's Survivors' right to sell or transfer the Shares may be restricted, and the Participant or the Participant's Survivors may be required to execute letters of investment intent and to acknowledge that the Shares will bear legends noting any applicable restrictions.

6.2 ISOs. ISOs shall be issued only to Key Employees. In addition to the minimum standards set forth in Section 6.1, ISOs shall be subject to the following terms and conditions, with such additional restrictions or changes as the Committee determines are appropriate but not in conflict with Code Section 422 and relevant regulations and rulings of the Internal Revenue Service:

6.2.1 ISO Option Price: The Option price per Share of the Shares subject to an ISO shall not be less than one hundred percent (100%) of the Fair Market Value per share of the Common Stock on the date of grant of the ISO; provided, however that the Option price per share of the Shares subject to an ISO granted to a Participant who owns, directly or by reason of the applicable attribution rules in Code Section 424(d), more than ten percent (10%) of the total combined voting power of all classes of share capital of the Company or an Affiliate, shall not be less than one hundred ten percent (110%) of the said Fair Market Value on the date of grant.

6.2.2 Term of ISO: Each ISO shall expire not more than ten (10) years from the date of grant; provided, however, that an ISO granted to a Participant who owns, directly or by reason of the applicable attribution rules in Code Section 424(d), more than ten percent (10%) of the total combined voting power of all classes of share capital of the Company or an Affiliate, shall expire not more than five (5) years from the date of grant.



6.2.3 Limitation on Yearly ISO Exercisability: The aggregate Fair Market Value (determined at the time each ISO is granted) of the stock with respect to which ISOs are exercisable for the first time by each Participant in any calendar year (under this or any other ISO plan of the Company or an Affiliate) shall not exceed the maximum amount allowable under Section 422 of the Code.

6.2.4 Limitation on Grant of ISOs: No ISOs shall be granted after December 8, 2004, the date which is ten (10) years from the earlier of the date of the adoption of this Plan and the date of the approval of the Plan by the shareholders of the Company.

6.3 Non-Employee Directors' Options. Each Non-Employee Director, upon first being elected or appointed to the Board of Directors, shall be granted an NQSO to purchase 20,000 Shares. Each such Option shall (i) have an exercise price equal to eighty-five percent (85%) of the Fair Market Value (per share) on the date of grant of the Option, (ii) have a term of ten (10) years, and (iii) shall become cumulatively exercisable in sixteen (16) equal quarterly installments, upon completion of each full quarter of service on the Board of Directors after the date of grant. In addition, on June 1 of each year, each Non-Employee Director shall be granted a NQSO to purchase 5,000 shares. Each such Option shall (i) have an exercise price equal to the Fair Market Value (per share) on the date of grant of such Option, (ii) have a term of ten (10) years, and (iii) be exercisable in full immediately on the date of grant. Any director entitled to receive an Option grant under this Section may elect to decline the Option. Notwithstanding the provisions of Section 24 concerning amendment of the Plan, the provisions of this Subsection shall not be amended more than once every six months, other than to comport with changes in the Code, the Employee Retirement Income Security Act, or the rules thereunder. Notwithstanding anything to the contrary contained in any other provisions of this Plan, the Committee shall have no discretion to vary the terms of Options granted under this Section 6.3 from those set forth herein. The provisions of Sections 11, 13 and 14 below shall not apply to Options granted pursuant to this Subsection.

6.4 Limitation on Number of Options Granted. Notwithstanding anything in this Plan to the contrary, no Participant shall be granted Options in any calendar year for the purchase of more than 200,000 Shares.

#### 7. TERMS AND CONDITIONS OF STOCK AWARDS

Each Stock Award shall be set forth in a Stock Agreement, duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Stock Agreement shall be in the form approved by the Committee, with such changes and modifications to such form as the Committee, in its discretion, shall approve with respect to any particular Participant or Participants. The Stock Agreement shall contain terms and conditions which the Committee determines to be appropriate and in the best interest of the Company; provided, however, that the purchase price per share of the Shares covered by each Stock Award shall not be less than the par value per Share. Each Stock Agreement shall state the number of Shares to which the Stock Award pertains, the date prior to which the Stock Award must be exercised by the Participant, and the terms of any right of the Company to reacquire the Shares subject to the Stock Award, including the time and events upon which such rights shall accrue and the purchase price therefor, and any restrictions on the transferability of such Shares.

#### 8. EXERCISE OF STOCK RIGHTS AND ISSUANCE OF SHARES

A Stock Right (or any part or installment thereof) shall be exercised by giving written notice to the Company, together with provision for payment of the full purchase price in accordance with this Section for the Shares as to which such Stock Right is being exercised, and

upon compliance with any other condition(s) set forth in the Stock Agreement. Such written notice shall be signed by the person exercising the Stock Right, shall state the number of Shares with respect to which the Stock Right is being exercised and shall contain any representation required by the Plan or the Stock Agreement.

Payment of the purchase price for the Shares as to which such Stock Right is being exercised shall be made (a) in United States dollars in cash or by check, or (b) at the discretion of the Committee, through delivery of shares of Common Stock already owned by the Participant not subject to any restriction under any plan and having a fair market value equal as of the date of exercise to the cash exercise price of the Stock Right, determined in good faith by the Committee, or (c) at the discretion of the Committee, by any other means, including a promissory note of the Participant, which the Committee determines to be consistent with the purpose of this Plan and applicable law, or (d) at the discretion of the Committee, in accordance with a cashless exercise program established with a securities brokerage firm, and approved by the Committee, or (e) at the discretion of the Committee, by any combination of (a), (b), (c) and (d) above. Notwithstanding the foregoing, the Committee shall accept only such payment on exercise of an ISO as is permitted by Section 422 of the Code.

The Company shall then reasonably promptly deliver the Shares as to which such Stock Right was exercised to the Participant (or to the Participant's Survivors, as the case may be). In determining what constitutes "reasonably promptly," it is expressly understood that the delivery of the Shares may be delayed by the Company in order to comply with any law or regulation which requires the Company to take any action with respect to the Shares prior to their issuance. The Shares shall, upon delivery, be fully paid, non-assessable Shares.

#### 9. RIGHTS AS A SHAREHOLDER

No Participant to whom a Stock Right has been granted shall have rights as a shareholder with respect to any Shares covered by such Stock Right, except after due exercise thereof and tender of the full purchase price for the Shares being purchased pursuant to such exercise and registration of the Shares in the Company's share register in the name of the Participant.

#### 10. ASSIGNABILITY AND TRANSFERABILITY OF STOCK RIGHTS

ISOs and, except as otherwise provided in the pertinent Stock Agreement, NQSOs and Stock Awards shall not be transferable by the Participant other than by will or by the laws of descent and distribution or pursuant to a qualified domestic relations order as defined by the Code or Title I of the Employee Retirement Income Security Act or the rules thereunder, provided, however, that the designation of a beneficiary of a Stock Right by a Participant shall not be deemed a transfer prohibited by this Section. Except as provided in the preceding sentence or as otherwise permitted under an NQSO or Stock Award Stock Agreement, a Stock Right shall be exercisable, during the Participant's lifetime, only by such Participant (or by his or her legal representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of any Stock Right or of any rights granted thereunder contrary to the provisions of this Plan, or the levy of any attachment or similar process upon a Stock Right, shall be null and void.

#### 11. EFFECT OF TERMINATION OF SERVICE

11.1 Except as otherwise provided in the pertinent Stock Agreement or as otherwise provided in Sections 12, 13 or 14, if a Participant ceases to be an employee, director, consultant or advisor with the Company and its Affiliates (a "Termination of Service") (for any reason other than termination "for cause", Disability, or death) before the Participant has exercised all Stock

Rights, the Participant may exercise any Stock Right granted to him or her to the extent that the Stock Right is exercisable on the date of such Termination of Service, but only within the originally prescribed term of the Stock Right. Notwithstanding the foregoing, except as provided in Section 13, in no event may an ISO be exercised later than three (3) months after the Participant's termination of employment with the Company and its Affiliates.

11.2 The provisions of this Section , and not the provisions of Section 13 or 14, shall apply to a Participant who subsequently becomes disabled or dies after the Termination of Service; provided, however, that in the case of a Participant's death within three (3) months after the Termination of Service, the Participant's Survivors may exercise the Stock Right within one (1) year after the date of the Participant's death, but in no event after the date of expiration of the term of the Stock Right.

11.3 Notwithstanding anything herein to the contrary, if subsequent to a Participant's Termination of Service, but prior to the exercise of a Stock Right, the Committee determines that, either prior or subsequent to the Participant's Termination of Service, the Participant engaged in conduct which would constitute "cause" (as defined in Section 12), then such Participant shall forthwith cease to have any right to exercise any Stock Right.

11.4 Absence from work with the Company or an Affiliate because of temporary disability (any disability other than a permanent and total Disability as defined in Section 1 hereof), or a leave of absence for any purpose, shall not, during the period of any such absence, be deemed, by virtue of such absence alone, a Termination of Service, except as the Committee may otherwise expressly provide.

11.5 A change of employment or other service within or among the Company and its Affiliates shall not be deemed a Termination of Service, so long as the Participant continues to be an employee, director, consultant or advisor of the Company or any Affiliate; provided, however, that if a Participant's employment with the Company or an Affiliate should cease (other than to become an employee of another Affiliate or of the Company), then Section 11.1 above shall apply as to any ISOs granted to such Participant.

## 12. EFFECT OF TERMINATION OF SERVICE FOR "CAUSE"

Except as otherwise provided in the pertinent Stock Agreement, in the event of a Termination of Service of a Participant "for cause" all outstanding and unexercised Stock Rights as of the date the Participant is notified his or her service is terminated "for cause" will immediately be forfeited. For purposes of this Section 12, "cause" shall include (and is not limited to) dishonesty with respect to the Company and its Affiliates, insubordination, substantial malfeasance or non-feasance of duty, unauthorized disclosure of confidential information, conduct substantially prejudicial to the business of the Company or any Affiliate, and termination by the Participant in violation of an agreement by the Participant to remain in the employ of the Company of an Affiliate. The determination of the Committee as to the existence of cause will be conclusive on the Participant and the Company. "Cause" is not limited to events which have occurred prior to a Participant's Termination of Service, nor is it necessary that the Committee's finding of "cause" occur prior to termination. If the Committee determines, subsequent to a Participant's Termination of Service but prior to the exercise of a Stock Right, that either prior or subsequent to the Participant's termination the Participant engaged in conduct which would constitute "cause," then the right to exercise any Stock Right shall be forfeited. Any definition in an agreement between a Participant and the Company or an Affiliate which contains a conflicting definition of "cause" for termination and which is in effect at the time of such termination shall supersede the definition in this Plan with respect to that Participant.

## 13. EFFECT OF TERMINATION OF SERVICE FOR DISABILITY

Except as otherwise provided in the pertinent Stock Agreement, in the event of a Termination of Service by reason of Disability, the Disabled Participant may exercise any Stock Right granted to him or her to the extent exercisable but not exercised on the date of Disability. A Disabled Participant may exercise such rights only within a period of not more than one (1) year after the date that the Participant became Disabled or, if earlier, within the originally prescribed term of the Stock Right.

The Committee shall make the determination both of whether Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Committee, the cost of which examination shall be paid for by the Company.

## 14. EFFECT OF DEATH WHILE AN EMPLOYEE, DIRECTOR OR CONSULTANT

Except as otherwise provided in the pertinent Stock Agreement, in the event of death of a Participant while the Participant is an employee, director, consultant or advisor of the Company or of an Affiliate, any Stock Rights granted to such Participant may be exercised by the Participant's Survivors to the extent exercisable but not exercised on the date of death. Any such Stock Right must be exercised within one (1) year after the date of death of the Participant.

## 15. PURCHASE FOR INVESTMENT

Unless the offering and sale of the Shares to be issued upon the particular exercise of an Stock Right shall have been effectively registered under the Securities Act of 1933, as now in force or hereafter amended (the "1933 Act"), the Company shall be under no obligation to issue the Shares covered by such exercise unless and until the following conditions have been fulfilled:

- a. The person(s) who exercise such Stock Right shall warrant to the Company, at the time of such exercise or receipt, as the case may be, that such person(s) are acquiring such Shares for their own respective accounts, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person(s) acquiring such Shares shall be bound by the provisions of the following legend which shall be endorsed upon the certificate(s) evidencing their Shares issued pursuant to such exercise or such grant:

"The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws.

- b. The Company shall have received an opinion of its counsel that the Shares may be issued upon such particular exercise in compliance with the 1933 Act without registration thereunder.

The Company may delay issuance of the Shares until completion of any action or obtaining of any consent which the Company deems necessary under any applicable law (including, without limitation, state securities or "blue sky" laws).

## 16. DISSOLUTION OR LIQUIDATION OF THE COMPANY

Upon the dissolution or liquidation of the Company, all Stock Rights granted under this Plan which as of such date shall not have been exercised will terminate and become null and void; provided, however, that if the rights of a Participant have not otherwise terminated and expired, the Participant will have the right immediately prior to such dissolution or liquidation to exercise any Stock Right to the extent that such Stock Right is exercisable as of the date immediately prior to such dissolution or liquidation.

## 17. ADJUSTMENTS

Upon the occurrence of any of the following events, a Participant's rights with respect to any Stock Right granted to him or her hereunder which have not previously been exercised in full shall be adjusted as hereinafter provided, unless otherwise specifically provided in the written agreement between the Participant and the Company relating to such Stock Right or in any employment agreement between a Participant and the Company or an Affiliate:

17.1 Stock Dividends and Stock Splits. If the shares of Common Stock shall be subdivided or combined into a greater or smaller number of shares or if the Company shall issue any shares of Common Stock as a stock dividend on its outstanding Common Stock, the number of shares of Common Stock deliverable upon the exercise of such Stock Right shall be appropriately increased or decreased proportionately, and appropriate adjustments shall be made in the purchase price per share to reflect such subdivision, combination or stock dividend. The number of Shares subject to options to be granted to Non-Employee Directors pursuant to Section 6.3 shall also be proportionately adjusted upon the occurrence of such events.

17.2 Consolidations or Mergers. If the Company is to be consolidated with or acquired by another entity in a merger in which the Company is not the surviving entity, a sale of all or substantially all of the Company's assets or otherwise (an "Acquisition"), either (i) the Committee or the board of directors of any entity assuming the obligations of the Company hereunder, shall, as to outstanding Options, make appropriate provision for the continuation of such Options by substituting on an equitable basis for the Shares then subject to such Options either the consideration payable with respect to the outstanding shares of Common Stock in connection with the Acquisition or securities of any successor or acquiring entity; or (ii) the vesting of all outstanding Options shall be accelerated and such Options shall become fully exercisable immediately prior to the Acquisition, notwithstanding any restrictions or vesting conditions set forth therein.

17.3 Recapitalization or Reorganization. In the event of a recapitalization or reorganization of the Company (other than a transaction described in Section 17.2 above) pursuant to which securities of the Company or of another corporation are issued with respect to the outstanding shares of Common Stock, a Participant upon exercising a Stock Right shall be entitled to receive for the purchase price paid upon such exercise the securities he or she would have received if he or she had exercised such Stock Right prior to such recapitalization or reorganization.

17.4 Modification of ISOs. Notwithstanding the foregoing, any adjustments made pursuant to Section 17.1, 17.2 or 17.3 with respect to ISOs shall be made only after the Committee determines whether such adjustments would constitute a "modification" of such ISOs (as that term is defined in Section 424(h) of the Code) or would cause any adverse tax consequences for the holders of such ISOs. If the Committee determines that such adjustments made with respect to ISOs would constitute a modification of such ISOs, it may refrain from making such adjustments, unless the holder of an ISO specifically requests in writing that such

adjustment be made and such writing indicates that the holder has full knowledge of the consequences of such "modification" on his or her income tax treatment with respect to the ISO.

#### 18. ISSUANCES OF SECURITIES

Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of Shares subject to Options. Except as expressly provided herein, no adjustments shall be made for dividends paid in cash or in property (including without limitation, securities) of the Company.

#### 19. FRACTIONAL SHARES

No fractional share shall be issued under the Plan and the person exercising any Stock Right shall receive from the Company cash in lieu of any such fractional share equal to the Fair Market Value thereof determined in good faith by the Board of Directors of the Company.

#### 20. CONVERSION OF ISOs INTO NON-QUALIFIED OPTIONS: TERMINATION OF ISOs

Any Options granted under this Plan which do not meet the requirements of the Code for ISOs shall automatically be deemed to be NQSOs without further action on the part of the Committee. The Committee, at the written request of any Participant, may in its discretion take such actions as may be necessary to convert such Participant's ISOs (or any portion thereof) that have not been exercised on the date of conversion into NQSOs at any time prior to the expiration of such ISOs, regardless of whether the Participant is an employee of the Company or an Affiliate at the time of such conversion. Such actions may include, but not be limited to, extending the exercise period or reducing the exercise price of the appropriate installments of such Options. At the time of such conversion, the Committee (with the consent of the Participant) may impose such conditions on the exercise of the resulting NQSOs as the Committee in its discretion may determine, provided that such conditions shall not be inconsistent with this Plan. Nothing in the Plan shall be deemed to give any Participant the right to have such Participant's ISOs converted into NQSOs, and no such conversion shall occur until and unless the Committee takes appropriate action. The Committee, with the consent of the Participant, may also terminate any portion of any ISO that has not been exercised at the time of such termination.

#### 21. WITHHOLDING

In the event that any federal, state, or local income taxes, employment taxes, Federal Insurance Contributions Act ("FICA") withholdings or other amounts are required by applicable law or governmental regulation to be withheld from the Participant's salary, wages or other remuneration in connection with the exercise of a Stock Right or a Disqualifying Disposition (as defined in Section 22), the Participant shall advance in cash to the Company, or to any Affiliate of the Company which employs or employed the Participant, the amount of such withholdings unless a different withholding arrangement, including the use of shares of the Company's Common Stock, is authorized by the Committee (and permitted by law), provided, however, that with respect to persons subject to Section 16 of the Exchange Act, any such withholding arrangement shall be in compliance with any applicable provisions of Rule 16b-3 promulgated under Section 16 of the Exchange Act. For purposes hereof, the Fair Market Value of any shares withheld for purposes of payroll withholding shall be determined in the manner provided in Section 1 above, as of the most recent practicable date prior to the date of exercise. If the Fair Market Value of the shares withheld is less than the amount of payroll withholdings required, the Participant may be required to advance the difference in cash to the Company or the Affiliate

employer. The Committee in its discretion may condition the exercise of an Option for less than the then Fair Market Value on the Participant's payment of such additional withholding.

## 22. NOTICE TO COMPANY OF DISQUALIFYING DISPOSITION

Each Key Employee who receives an ISO must agree to notify the Company in writing immediately after the Key Employee makes a "Disqualifying Disposition" of any Shares acquired pursuant to the exercise of an ISO. A Disqualifying Disposition is any disposition (including any sale) of such shares before the later of (a) two years after the date the Key Employee was granted the ISO, or (b) one year after the date the Key Employee acquired Shares by exercising the ISO. If the Key Employee has died before such Shares are sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

## 23. EFFECTIVE DATE; TERMINATION OF THE PLAN

The Plan shall be effective on December 12, 1996, the date of its approval by the Board of Directors. The Plan will terminate on December 12, 2006. The Plan may be terminated at an earlier date by vote of the Board of Directors; provided, however, that any such earlier termination will not affect any Stock Rights granted or Stock Agreements executed prior to the effective date of such termination.

## 24. AMENDMENT OF THE PLAN; AMENDMENT OF STOCK RIGHTS

The Plan may be amended by the stockholders of the Company. The Plan may also be amended by the Board of Directors or the Committee, including, without limitation, to the extent necessary to qualify any or all outstanding Stock Rights granted under the Plan or Stock Rights to be granted under the Plan for favorable federal income tax treatment (including deferral of taxation upon exercise) as may be afforded incentive stock options under Section 422 of the Code, to the extent necessary to ensure that Stock Rights granted or to be granted under the Plan are in accordance with Rule 16b-3 under the Exchange Act, and to the extent necessary to qualify the shares issuable upon exercise of any outstanding Stock Rights granted, or Stock Rights to be granted, under the Plan for listing on any national securities exchange or quotation in any national automated quotation system of securities dealers. No modification or amendment of the Plan shall adversely affect his or her rights under a Stock Right previously granted to a Participant without such Participant's consent.

In its discretion, the Committee may amend any term or condition of any outstanding Stock Right, provided, (i) such term or condition as amended is permitted by the Plan, (ii) if the amendment is adverse to the Participant, such amendment shall be made only with the consent of the Participant, (iii) any such amendment of any ISO shall be made only after the Committee determines whether such amendment would constitute a "modification" of any Stock Right which is an ISO (as that term is defined in Section 424(h) of the Code) or would cause any adverse tax consequences for the holder of such ISO, and (iv) with respect to any Stock Right held by any Participant who is subject to the provisions of Section 16(a) of the Exchange Act, any such amendment shall be made only after the Committee determines whether such amendment would constitute the grant of a new Stock Right.

## 25. EMPLOYMENT OR OTHER RELATIONSHIP

Nothing in this Plan or any Stock Agreement shall be deemed to prevent the Company or an Affiliate from terminating the employment, consultancy or director status of a Participant, nor to prevent a Participant from terminating his or her own employment, consultancy or director status or to give any Participant a right to be retained in employment or other service by the Company or any Affiliate for any period of time.

26. GOVERNING LAW

This Plan shall be construed and enforced in accordance with the law of The Commonwealth of Massachusetts.



## Second Amendment to Lease

Date: As of February 12, 1997

Lease: A certain lease dated October 1, 1992 between the Landlord, as landlord, and the Tenant, as tenant, as to the Premises, as amended by First Amendment to Lease dated as of March 1, 1995 (the "First Amendment")

Landlord: C. Vincent Vappi

Tenant: Vertex Pharmaceuticals Incorporated

Premises: As defined in the Lease, the 618 Putnam Premises, 40 Allston Premises, 228 Sidney Premises, and 240 Sidney Premises (including Phase II of the Sidney Premises), as amended herein

## R E C I T A L S

- A. Landlord and Tenant have continuing obligations under the Lease.
- B. Landlord and Tenant desire to extend the term and modify certain terms of the Lease as set forth herein.

NOW, THEREFORE, For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Landlord and Tenant agree as follows:

1. Paragraph I of the Lease and paragraph 1 of the First Amendment are amended to provide that the defined term, "240 Sidney Premises" includes all space in the building located at 240 Sidney Street, Cambridge, Massachusetts. The total rentable square feet of the Premises upon and after the effective date of this Amendment is 35,000.
2. Paragraph II of the Lease is amended to provide that the Lease, as previously extended, shall expire at 11:59 P.M. on December 31, 2003. As used in the Lease as hereby amended, the word "term" shall mean the Original Term and the Extended Term, as extended and amended previously and herein.
3. Paragraph 3 of the First Amendment is deleted in its entirety.

4. Paragraph III of the Lease is amended to provide that:

Commencing January 1, 1997 through December 31, 2001, the Base Rent shall be \$10.37 per rentable square foot of the Premises, or \$363,000.00 annually (pro rata reduced for any portion of a Year) payable in monthly installments of \$30,250.00;

Commencing January 1, 2002 through December 31, 2003, the Base Rent shall be \$11.93 per rentable square foot of the Premises, or \$417,450.00 annually (pro rata reduced for any portion of a Year) payable in monthly installments of \$34,787.50.

5. In all other respects, the Lease remains in full force and effect and unmodified hereby.

6. Notwithstanding anything to the contrary contained herein, this Second Amendment is subject to and conditional upon the Landlord's obtaining a loan secured by a mortgage on the Premises by April 15, 1997. In the event that such a mortgage loan is not concluded within such thirty-day period, this Second Amendment shall be null and void and of no effect.

Signed under seal as of the date first written above.

Landlord:

/s/ C. Vincent Vappi  
-----  
C. Vincent Vappi

Tenant:

VERTEX PHARMACEUTICALS INCORPORATED

By: /s/ Richard H. Aldrich  
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FIRST AMENDMENT, DATED 1 DECEMBER 1996, TO LEASE AGREEMENT

BETWEEN FORT WASHINGTON REALTY TRUST AND VERTEX PHARMACEUTICALS INCORPORATED

DATED 1 MARCH 1993

Fort Washington Realty Trust and Vertex Pharmaceuticals Incorporated hereby agree to amend the current lease on 625 Putnam Avenue, Cambridge, dated 1 March 1993, as follows:

page 1, Section 1.1; page 2, Section 2; and page 2 & 3, Section 3.1; Extension of original term:

Term: 1 February 1997 through 31 December 1998

Rent: 15,750 sq ft at \$15.24/sq ft/yr=\$240,000/yr=\$20,000/month

page 36, Section 11.10: Option to extend beyond first extension:

Tenant's option to Extend: 1 January 1999 through 31 December 2000, at a rent of 15,750 sq ft at \$18.00/sq ft/yr=\$283,500/yr=\$23,625/month

Triple-net of all taxes, insurance, utilities, and operating expenses.

All other provisions of said lease shall remain unchanged

Signatories certify that they are empowered to commit their respective organization in matters pertaining to this agreement, executed in December 1996

LESSOR:

LESSEE:

/s/ HENRY H. KOLM

/s/ ELIZABETH C. KOLM

-----  
Fort Washington Realty Trust  
By: Henry H. Kolm, Trustee  
Elizabeth C. Kolm, Trustee  
Date: 18 Jan 1996

/s/ RICHARD H. ALDRICH

-----  
Vertex Pharmaceuticals Incorporated  
By: Richard H. Aldrich  
Senior VP, Chief Business Officer  
Date: 16 Dec 1996

EXHIBIT 23.1

CONSENT OF INDEPENDENT ACCOUNTANTS

We consent to the incorporation by reference in the Registration Statement of Vertex Pharmaceuticals Incorporated on Form S-8 (File Nos. 33-48030, 33-48348, 33-65742, 33-93224 and 33-12325) of our report dated February 18, 1997 on our audits of the consolidated financial statements of Vertex Pharmaceuticals Incorporated and Subsidiaries as of December 31, 1996 and 1995, and for each of the three years in the period ended December 31, 1996 which report is included in this Form 10-K.

/s/ Coopers & Lybrand L.L.P.  
COOPERS & LYBRAND L.L.P.

Boston, Massachusetts  
March 27, 1997

5  
1,000  
US DOLLARS

YEAR		
DEC-31-1996		
JAN-01-1996		
DEC-31-1996		
	1	34,851
	95,508	
	0	
	0	
	0	
	132,150	28,700
	20,037	
	143,499	
7,056		0
0		0
	0	211
	130,615	
143,499		0
	18,598	0
	58,141	
	0	
	0	
	462	
	(40,005)	0
	0	
	0	
	0	
	(40,005)	0
	(2.13)	
	0	