

3,000,000 SHARES  
[LOGO] VERTEX PHARMACEUTICALS INCORPORATED  
COMMON STOCK

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All of the shares of Common Stock, \$.01 par value per share (the "Common Stock"), offered hereby are being sold by Vertex Pharmaceuticals Incorporated ("Vertex" or the "Company"). The Common Stock is quoted on the Nasdaq National Market under the symbol "VRTX." The last sale price of the Common Stock on March 6, 1997, as reported by the Nasdaq National Market, was \$46.00 per share.

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THIS OFFERING INVOLVES A HIGH DEGREE OF RISK.  
SEE "RISK FACTORS" BEGINNING ON PAGE 6 OF THIS PROSPECTUS.

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THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

	PRICE TO PUBLIC	UNDERWRITING DISCOUNTS AND COMMISSIONS(1)	PROCEEDS TO COMPANY(2)
Per Share.....	\$ 45.50	\$ 2.25	\$ 43.25
Total(3).....	\$136,500,000	\$6,750,000	\$129,750,000

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- (1) The Company has agreed to indemnify the Underwriters against certain liabilities, including liabilities under the Securities Act of 1933. See "Underwriting."
- (2) Before deducting expenses payable by the Company estimated to be \$350,000.
- (3) The Company has granted the Underwriters an option, exercisable within 30 days of the date hereof, to purchase an aggregate of up to 450,000 additional shares at the Price to Public less Underwriting Discounts and Commissions to cover over-allotments, if any. If all such additional shares are purchased, the total Price to Public, Underwriting Discounts and Commissions and Proceeds to Company will be \$156,975,000, \$7,762,500 and \$149,212,500, respectively. See "Underwriting."

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The shares of Common Stock are offered by the several Underwriters named herein when, as and if received and accepted by them, and subject to their right to reject orders in whole or in part and subject to certain other conditions. It is expected that delivery of the certificates for the shares will be made at the offices of Cowen & Company, New York, New York on or about March 12, 1997.

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COWEN & COMPANY

BEAR, STEARNS & CO. INC.

ROBERTSON, STEPHENS & COMPANY

J.P. MORGAN & CO.

March 7, 1997

CERTAIN PERSONS PARTICIPATING IN THIS OFFERING MAY ENGAGE IN TRANSACTIONS THAT STABILIZE, MAINTAIN OR OTHERWISE AFFECT THE PRICE OF THE COMPANY'S COMMON STOCK INCLUDING BY ENTERING STABILIZING BIDS, EFFECTING SYNDICATE COVERING TRANSACTIONS OR IMPOSING PENALTY BIDS. FOR A DESCRIPTION OF THESE ACTIVITIES, SEE "UNDERWRITING."

IN CONNECTION WITH THIS OFFERING, CERTAIN UNDERWRITERS (AND SELLING GROUP MEMBERS) MAY ENGAGE IN PASSIVE MARKET MAKING TRANSACTIONS IN THE COMMON STOCK ON NASDAQ IN ACCORDANCE WITH RULE 10b-6A UNDER THE SECURITIES EXCHANGE ACT OF 1934 OR ANY SUCCESSOR RULE OR REGULATION THERETO. SEE "UNDERWRITING."

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 AVAILABLE INFORMATION

The Company is subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in accordance therewith files reports, proxy statements and other information with the Securities and Exchange Commission (the "Commission"). Such reports, proxy statements and other information filed by the Company pursuant to the Exchange Act may be inspected and copied at the public reference facilities maintained by the Commission at 450 Fifth Street, N.W., Washington D.C. 20549 and at the Commission's Regional Offices at Seven World Trade Center, New York, New York 10048 and Northwestern Atrium Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661. Reports, proxy and information statements and other information filed electronically by the Company with the Commission are available at the Commission's World Wide Web site at <http://www.sec.gov>. Copies of such materials can be obtained from the Public Reference Section of the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549 at prescribed rates. The Company's Common Stock is quoted on the Nasdaq National Market, and such reports, proxy statements and other information can be inspected at the offices of Nasdaq Operations, 1735 K Street, N.W., Washington, D.C. 20006.

The Company has filed with the Commission a Registration Statement on Form S-3 under the Securities Act of 1933, as amended (the "Securities Act"), with respect to the Common Stock offered hereby. This Prospectus, which constitutes part of the Registration Statement, omits certain of the information contained in the Registration Statement and the exhibits and schedules thereto on file with the Commission pursuant to the Securities Act and the rules and regulations of the Commission thereunder. Statements contained in this Prospectus as to the contents of any contract or other document referred to are not necessarily complete, and in each instance, reference is made to the copy of such contract or other document filed as an exhibit to the Registration Statement, each such statement being qualified in all respects by such reference. The Registration Statement, including exhibits and schedules thereto, may be inspected and copied at the facilities of the Commission referred to above.

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 INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents or portions of documents filed by the Company (File No. 0-19319) with the Commission are incorporated herein by reference: (a) Annual Report on Form 10-K for the fiscal year ended December 31, 1995; (b) Quarterly Report on Form 10-Q for the quarter ended March 31, 1996; (c) Quarterly Report on Form 10-Q/A for the quarter ended March 31, 1996 filed with the Commission on May 22, 1996; (d) Quarterly Report on Form 10-Q/A-2 for the quarter ended March 31, 1996 filed with the Commission on July 23, 1996; (e) Quarterly Report on Form 10-Q for the quarter ended June 30, 1996; (f) Quarterly Report on Form 10-Q for the quarter ended September 30, 1996; (g) Current Report on Form 8-K filed with the Commission on February 25, 1997; (h) the description of the Company's Common Stock which is contained in its Registration Statement on Form 8-A filed with the Commission on May 30, 1991; and (i) the description of rights to purchase Series A Junior Participating Preferred Stock, par value \$.01 per share, contained in the Company's Registration Statement on Form 8-A filed with the Commission on May 30, 1991.

All reports and other documents filed by the Company pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of this Prospectus and prior to the termination of this offering shall be deemed to be incorporated by reference herein and to be a part hereof from the date of the filing of such reports and documents. Any statement contained in a document, all or a portion of which is incorporated by reference herein, shall be deemed to be modified or superseded for purposes of this Prospectus to the extent that a statement contained or incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Prospectus.

Upon written or oral request, the Company will provide without charge to each person to whom this Prospectus is delivered a copy of any or all of such documents which are incorporated herein by reference (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this Prospectus incorporates). Requests for such copies should be directed to Thomas G. Auchincloss, Jr., Vice President of Finance and Treasurer, Vertex Pharmaceuticals Incorporated, 130 Waverly Street, Cambridge, Massachusetts 02139-4242, (617) 577-6000.

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Vertex(R), the Vertex logo and CLEC(R) are registered trademarks and  
ChiroCLEC(TM) and PeptiCLEC(TM) are trademarks of Vertex.

Unless the context requires otherwise, "Vertex" or the "Company" refers to  
Vertex Pharmaceuticals Incorporated and its subsidiaries.  
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## PROSPECTUS SUMMARY

The following summary is qualified in its entirety by the more detailed information and financial data appearing elsewhere or incorporated by reference in this Prospectus. Except as otherwise noted, all information in this Prospectus assumes no exercise of the Underwriters' over-allotment option. Investors should consider carefully the information set forth under the heading "Risk Factors."

## THE COMPANY

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") and two genetic hemoglobin disorders are currently undergoing human clinical trials. In addition, the Company has research programs aimed at developing orally available small molecule compounds to treat autoimmune diseases, inflammatory diseases, neurodegenerative diseases and hepatitis C infection.

The Company currently has products undergoing clinical trials in the following disease areas:

**HIV Infection and AIDS:** 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 HIV protease inhibitor, VX-478. In February 1997, Glaxo Wellcome began a multi-center Phase III clinical trial in the United States, Canada and Europe to assess the safety and efficacy of VX-478 in combination with AZT and 3TC. Approximately 290 HIV-positive adults are expected to enroll in the trial. Glaxo Wellcome plans to begin in the first half of 1997 a multi-center Phase III clinical trial in the United States and Europe to assess the safety and efficacy of VX-478 in children. In addition, through a series of clinical studies underway or planned by Glaxo Wellcome, the use of VX-478 will be assessed in combination with the Glaxo Wellcome anti-HIV agents AZT, 3TC and 1592U89, as well as with other HIV protease inhibitors. Vertex expects that Kissei will begin Phase II/III efficacy trials in 1997 in HIV-positive patients that will be designed based on clinical data from Glaxo Wellcome. In addition, VX-478 is being evaluated as a single agent through a collaboration with the AIDS Clinical Trial Group (the "ACTG"), Glaxo Wellcome and Kissei. In January 1997, Glaxo Wellcome reported preliminary results from the Phase I/II clinical trial suggesting that VX-478 is well-tolerated and displays potent antiviral activity. In January 1997, Glaxo Wellcome also reported preliminary data from the Phase I/II clinical trial suggesting that HIV in participants in this trial did not develop resistance to VX-478 administered as a single agent over four weeks of administration.

**Cancer MDR:** 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 responsible for MDR. Certain cellular mechanisms cause chemotherapeutic drug resistance in a broad range of human cancers, including in a variety of solid tumors of the liver, breast, ovary, lung and colon/rectum and in a number of blood cancers. 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. Vertex plans to initiate in 1997 a Phase II multi-center clinical trial to assess the safety and efficacy of co-administration of VX-710 and paclitaxel in patients with breast cancer. The Company is collaborating with BioChem Therapeutic, Inc. ("BioChem"), a subsidiary of BioChem Pharma (International) Inc., for the development and commercialization of VX-710 in Canada. BioChem is planning to initiate in 1997 Phase II clinical trials of VX-710 in combination with doxorubicin in patients with soft tissue sarcoma and in combination with paclitaxel in patients with

ovarian cancer. Preliminary results of an earlier Phase I/II trial suggest that the VX-710/doxorubicin regimen was well-tolerated and that VX-710 was blocking the targeted protein implicated in MDR. 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 combination with doxorubicin in patients with solid tumors.

**Hemoglobin Disorders:** Vertex is developing drugs to treat sickle cell disease and beta thalassemia, inherited blood disorders for which treatment is currently limited. Vertex is collaborating with Alpha Therapeutic Corporation ("Alpha") and Ravizza Farmaceutici S.p.A. ("Ravizza") on the development of VX-366. In 1996, Ravizza completed a pilot Phase II trial of VX-366 in Italy in patients with beta thalassemia.

The Company's most advanced preclinical and research programs are in the following disease areas:

**Autoimmune Diseases:** The Company is developing orally available drugs to treat autoimmune diseases by blocking inosine monophosphate dehydrogenase ("IMPDH"), an enzyme which controls DNA synthesis in lymphocytes. The activation and proliferation of lymphocytes are associated with a variety of autoimmune diseases, including asthma, rheumatoid arthritis and systemic lupus, as well as with transplant rejection. In December 1996, Vertex selected VX-497 as a lead drug development candidate for autoimmune diseases and began preclinical development of the compound. Vertex intends to evaluate VX-497 for psoriasis, an autoimmune disease of the skin, as the first clinical indication for the compound. The Company plans to initiate clinical trials in 1998 to evaluate the safety and pharmacokinetics of VX-497 in healthy volunteers.

**Inflammation:** Vertex is developing novel drugs to treat acute and chronic inflammatory diseases. The Company is collaborating with Hoechst Marion Roussel ("HMR") for 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.

**Additional Research Programs:** The Company has an ongoing research program in collaboration with Glaxo Wellcome to develop additional classes of HIV protease inhibitors. This research is focused on designing compounds with resistance profiles distinct from VX-478. The Company also is developing neurophilin compounds to treat neurodegenerative diseases. These compounds have been shown to stimulate nerve growth in disease models. The Company also is conducting research to design orally available drugs to act as (i) inhibitors of caspase CPP32 for the treatment of neurodegenerative diseases, (ii) inhibitors of hepatitis C protease for the treatment of hepatitis C infection and (iii) inhibitors of MAP kinases for the treatment of inflammatory diseases.

The Company believes it has developed a technological advantage in the process of drug discovery and development due to its ability to integrate a variety of disciplines and techniques to design synthetic compounds based on the detailed three dimensional structure of protein targets. The Company also believes that its structure-based drug design approach improves the chances for accelerated discovery, optimization and development of novel synthetic compounds that are specific to the drug target and have desirable pharmacokinetic and safety profiles.

In addition to the Company's core scientific platform for drug discovery, the Company has established capabilities in product development, including preclinical testing and process chemistry. The Company also is manufacturing through third parties each of its lead compounds for use in preclinical and clinical trials. 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.

Vertex has its headquarters and research facilities at 130 Waverly Street, Cambridge, Massachusetts 02139, and its telephone number is (617) 577-6000. The Company was incorporated under the laws of the Commonwealth of Massachusetts in 1989.

## THE OFFERING

Common Stock offered..... 3,000,000 shares  
Common Stock to be outstanding after the  
offering..... 24,097,117 shares(1)  
Use of proceeds..... For research and product development  
programs, including clinical trials, and  
other general corporate purposes.  
Nasdaq National Market symbol..... VRTX

(1) Based on the number of shares of Common Stock outstanding as of December 31, 1996. Does not include 4,032,609 shares of Common Stock reserved for issuance upon exercise of outstanding options as of December 31, 1996.

## SUMMARY CONSOLIDATED FINANCIAL DATA

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

	DECEMBER 31, 1996	
	ACTUAL	AS ADJUSTED(1)
CONSOLIDATED BALANCE SHEET DATA:		
Cash, cash equivalents and short-term investments.....	\$130,359	\$259,759
Total assets.....	143,499	272,899
Obligations under capital leases, excluding current portion.....	5,617	5,617
Accumulated deficit.....	(96,944)	(96,944)
Total stockholders' equity.....	130,826	260,226

(1) Adjusted to reflect the sale of the 3,000,000 shares of Common Stock offered hereby, at a public offering price of \$45.50 per share and net proceeds to the Company of approximately \$129,400,000.

This Prospectus contains, in addition to historical information, forward-looking statements that involve risks and uncertainties. The Company's actual results could differ materially from the results discussed in the forward-looking statements. Factors that could cause or contribute to such differences include those discussed in "Risk Factors," as well as those discussed elsewhere in this Prospectus.

## RISK FACTORS

An investment in the shares of Common Stock offered hereby involves a high degree of risk. Prospective investors should consider the following factors, in addition to the other information in this Prospectus, in evaluating the Company and its business before purchasing any shares of the Common Stock offered hereby.

## 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 U.S. Food and Drug Administration ("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 a New Drug Application ("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 potential 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 G.D. Searle & Company ("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 the net proceeds of this offering and 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 solely 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 "Management."

#### 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.

The Directors and officers of the Company and certain other stockholders holding in the aggregate approximately 1,162,268 shares of Common Stock have agreed not to sell their shares within 90 days following the effective date of the Registration Statement of which this Prospectus is a part. 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. See "Price Range of Common Stock."

#### 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, 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. See "Description of Capital Stock - - - Stockholder Rights Plan."

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.

#### DILUTION

Purchasers of shares of Common Stock in this offering will experience immediate and substantial dilution in net tangible book value per share. Additional dilution is likely to occur upon exercise of outstanding stock options. See "Dilution."

## USE OF PROCEEDS

The net proceeds to be received by the Company from the sale of the Common Stock offered hereby are estimated to be approximately \$129,400,000 (\$148,862,500 if the Underwriters' over-allotment option is exercised in full), at a public offering price of \$45.50 per share and after deducting the underwriting discounts and commissions and estimated offering expenses.

The Company intends to use the net proceeds of this offering primarily to fund research and product development programs, including clinical trials, and for general corporate purposes. In addition, a portion of the net proceeds may be used to acquire technology, products or companies that complement the business of the Company, although no such acquisition transactions are planned or are being negotiated as of the date of this Prospectus. The actual amounts and timing of expenditures for each purpose, however, will depend on the progress of the Company's research and development programs, technological advances, determinations as to commercial potential of products, the terms of any collaborative arrangements entered into by the Company for development and licensing, regulatory approvals and other factors, many of which are beyond the Company's control.

Pending such uses, the Company intends to invest the net proceeds of this offering primarily in interest-bearing, investment-grade securities.

## PRICE RANGE OF COMMON STOCK

The Company's Common Stock is quoted on the Nasdaq National Market under the symbol "VRTX." The following table sets forth the high and low last sale prices for the Common Stock as reported on the Nasdaq National Market for the periods indicated.

	HIGH -----	LOW -----
1995		
First Quarter.....	\$16 3/4	\$13
Second Quarter.....	16 3/4	12 3/4
Third Quarter.....	23	13 1/2
Fourth Quarter.....	26 1/2	16 1/4
1996		
First Quarter.....	\$29 7/8	\$22
Second Quarter.....	38	26
Third Quarter.....	36 1/4	23 1/4
Fourth Quarter.....	40 1/4	28 7/8
1997		
First Quarter (through March 6, 1997).....	\$50 1/4	\$38 1/4

The last sale price of the Common Stock on March 6, 1997, as reported on the Nasdaq National Market, was \$46.00 per share. As of March 5, 1997, there were 297 holders of record of the Common Stock.

## DIVIDEND POLICY

The Company has never declared or paid any cash dividends on its Common Stock and does not anticipate doing so in the foreseeable future. The Company intends to retain future earnings, if any, for use in its business.



## CAPITALIZATION

The following table sets forth the capitalization of the Company as of December 31, 1996 and as adjusted to reflect the issuance and sale of the 3,000,000 shares of Common Stock offered hereby, after deducting underwriting discounts and commissions and estimated offering expenses.

	DECEMBER 31, 1996	
	ACTUAL	AS ADJUSTED
	(IN THOUSANDS)	
Obligations under capital leases, excluding current portion.....	\$ 5,617	\$ 5,617
Stockholders' equity:		
Preferred stock, \$.01 par value; 1,000,000 shares authorized; none issued(1).....	--	--
Common stock, \$.01 par value; 50,000,000 shares authorized; 21,097,117 shares issued and outstanding; 24,097,117 shares issued and outstanding as adjusted(2).....	211	241
Additional paid-in capital.....	227,510	356,880
Equity adjustments.....	49	49
Accumulated deficit.....	(96,944)	(96,944)
Total stockholders' equity.....	130,826	260,226
Total capitalization.....	\$136,443	\$265,843
	=====	=====

(1) Does not reflect shares of Series A Junior Participating Preferred Stock, \$.01 par value per share, issuable upon the exercise of Rights under the Company's Stockholder Rights Plan.

(2) Excludes an aggregate of 4,032,609 shares of Common Stock reserved for issuance upon exercise of outstanding options as of December 31, 1996.

## DILUTION

The net tangible book value of the Company at December 31, 1996 was \$130,826,000, or \$6.20 per share of Common Stock. Without taking into account changes in net tangible book value after December 31, 1996 other than to give effect to the sale of the 3,000,000 shares of Common Stock offered hereby, after deducting the underwriting discounts and commissions and estimated offering expenses, the Company's pro forma net tangible book value at December 31, 1996 would have been \$260,226,000, or \$10.80 per share. This represents an immediate dilution in net tangible book value of \$34.70 per share to new investors purchasing shares in the offering and an immediate increase in net tangible book value of \$4.60 per share to existing stockholders. The following table illustrates the per share dilution.

Public offering price per share.....		\$45.50
Net tangible book value before the offering.....	\$6.20	
Increase in net tangible book value attributable to this offering.....	4.60	
Pro forma net tangible book value after the offering(1).....		10.80
		-----
Dilution to new investors(2).....		\$34.70
		=====

(1) Pro forma net tangible book value per share represents the amount of total tangible assets of the Company less total liabilities, divided by 24,097,117, the number of shares of Common Stock outstanding as of December 31, 1996, after giving effect to the sale of the 3,000,000 shares of Common Stock offered hereby.

(2) Dilution is determined by subtracting pro forma net tangible book value per share after the offering from the amount of cash paid by a new investor for a share of Common Stock.

## SELECTED CONSOLIDATED FINANCIAL DATA

The selected financial data presented below for each of the five years ended December 31, have been derived from the Company's consolidated financial statements which have been audited by Coopers & Lybrand L.L.P., independent accountants. Results for a particular period are not necessarily indicative of the results to be expected for particular future periods. See "Risk Factors -- History of Operating Losses and Accumulated Deficit." This data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the Company's Financial Statements and related Notes incorporated herein by reference. No dividends were declared or paid for any of the periods presented.

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

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

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION  
AND RESULTS OF OPERATIONS

This Prospectus contains, in addition to historical information, forward-looking statements that involve risks and uncertainties. The Company's actual results could differ materially from the results discussed in the forward-looking statements. Factors that could cause or contribute to such differences include those discussed below, as well as those discussed under Risk Factors and elsewhere in this Prospectus.

OVERVIEW

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 Pharmaceutical Co., Ltd. ("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 the proceeds of this offering, its existing cash and investments of approximately \$130.4 million, 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 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.

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 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 \$24.00 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 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 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. The Company anticipates that its existing available cash and investments, including the net proceeds from this offering, will be adequate to satisfy its working capital requirements for its current and planned operations at least for the next 12 months.

## 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 HIV infection and AIDS, 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 table outlines the Company's most advanced product development and research programs.

COMPOUND/PROGRAM -----	INDICATION(S) -----	STATUS(1) -----	COMMERCIAL RIGHTS -----
VX-478	HIV/AIDS	Phase III(2)	Glaxo Wellcome/Kissei(3)
HIV Protease Inhibitors	HIV/AIDS	Research	Glaxo Wellcome
VX-710	Cancers susceptible to MDR	Phase II	BioChem/Vertex(4)
VX-853	Cancers susceptible to MDR	Phase I/II	Vertex
VX-366	Sickle cell disease and beta thalassemia	Phase II	Alpha/Ravizza/Vertex(5)
VX-497	Autoimmune diseases	Preclinical	Vertex
VX-740	Inflammatory diseases	Preclinical	HMR/Vertex(6)
Neurophilins	Neurodegenerative diseases	Research	Vertex
Apoptosis	Neurodegenerative diseases	Research	Vertex
Hepatitis C	Hepatitis C infection	Research	Vertex
MAP Kinases	Inflammatory diseases	Research	Vertex

(1) "Research" includes the discovery or creation of prototype compounds, in vitro studies of those compounds and preliminary evaluation in animals. "Preclinical" includes toxicologic assessment of candidate compounds in animal models and formulation of a product in an appropriate dosage form, development of chemical processes suitable for production of clinical grade material, and appropriate pharmacological evaluation. "Phase I" clinical trials indicates that the compound is being tested in healthy humans for safety, dose tolerance, absorption, bioavailability, biodistribution, metabolism, excretion, clinical pharmacology and/or, if possible, early information on efficacy. "Phase I/II" clinical trials indicates that the compound is being tested in a limited patient population for safety and preliminary indications of biological activity in patients with the targeted disease. "Phase II" clinical trials indicates that the compound is being tested in a limited 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" clinical trials indicates that the compound is being further evaluated for 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. See "-- Government Regulation."

(2) VX-478 is currently in one Phase III clinical trial in the U.S. and Europe, with additional Phase III trials planned, and has completed Phase I clinical trials in Japan.

(3) Glaxo Wellcome has worldwide rights except for the Far East. Kissei has rights for the Far East. See "-- Corporate Collaborations -- Glaxo Wellcome plc." and "-- Kissei Pharmaceutical Co., Ltd."

(4) BioChem has rights for VX-710 in Canada. Vertex retains worldwide rights for VX-710, except for Canada. See "-- Corporate Collaborations -- BioChem Therapeutic, Inc."

- (5) Alpha has rights for VX-366 for North, Central and South America. Vertex retains worldwide rights, except for North, Central and South America. Vertex has an arrangement with Ravizza under which Ravizza is conducting clinical studies and will share data with the Company and which includes a framework for negotiation of an agreement for clinical development and commercialization of compounds in Europe. See "-- Corporate Collaborations -- Alpha Therapeutic Corporation" and "-- Ravizza Farmaceutici S.p.A."
- (6) HMR has rights for any ICE inhibitors developed for Europe, Africa and the Middle East. Vertex and HMR have joint rights for the Far East. Vertex retains rights for the Americas and the rest of the world. See "-- Corporate Collaborations -- Hoechst Marion Roussel."

## 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. and Kissei Pharmaceutical Co., Ltd. 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 an 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 and Abbott Laboratories, 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. 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 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 Searle patent applications claiming HIV protease inhibitors. See "Risk Factors -- Uncertainly 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., 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.

#### HEMOGLOBIN DISORDERS PROGRAM

##### 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, a subsidiary of Green Cross Corporation, and Ravizza Farmaceutici, 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 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.

##### Background

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.

#### CORPORATE COLLABORATIONS

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. 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 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, for the preparation of optically pure pharmaceuticals and specialty chemicals, and PeptiCLEC, 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.

## PATENTS AND PROPRIETARY INFORMATION

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. 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 "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 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 an 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, money 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.

## 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.

## FACILITIES

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.

## LEGAL PROCEEDINGS

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

## MANAGEMENT

## DIRECTORS AND EXECUTIVE OFFICERS

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

NAME	AGE	POSITION
Joshua S. Boger, Ph.D.....	45	President and Chief Executive Officer, Director
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
Benno C. Schmidt.....	84	Chairman of the Board
Barry M. Bloom, Ph.D.(1)(3).....	68	Director
Roger W. Brimblecombe, Ph.D., D.Sc.(1)..	67	Director
Donald R. Conklin(2)(3).....	60	Director
William W. Helman IV(2).....	38	Director
Charles A. Sanders, M.D.....	65	Director

(1) Member of the Compensation Committee

(2) Member of the Audit Committee

(3) Member of the Nominating Committee

The Board of Directors is divided into three classes, as nearly equal in number as possible. At each annual meeting of stockholders, the successors to the class of directors whose term expires at the meeting will be elected to hold office for a term continuing until the annual meeting held in the third year following the year of their election and until their successors are duly elected and qualified. All executive officers are elected annually 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.

Mr. Schmidt has served as a member of the Board of Directors since April 1989 and as Chairman of the Board since 1991. He is a General Partner of J.H. Whitney & Co., a New York City-based venture capital firm. He is Honorary Co-Chairman of the Board of Memorial Sloan Kettering Cancer Center, senior member of the Institute of Medicine of the National Academy of Sciences and trustee of the General Motors Cancer Research Foundation. He has served as Chairman of the President's Cancer Panel under three United States Presidents. He is currently Chairman Emeritus of Freeport-McMoRan Copper & Gold, Inc. and Director Emeritus of Freeport-McMoRan Inc. and McMoRan Oil & Gas Co.

Dr. Bloom has served as a member of the Board of Directors since February 1994. Dr. Bloom was formerly with Pfizer Inc., as Executive Vice President of Research and Development from 1992 to 1993, as Senior Vice President from 1990 to 1992, as Vice President from 1971 to 1990 and as a director since 1973. Dr. Bloom is also a Director of Incyte Pharmaceuticals Inc., Neurogen Corporation, Southern New England Telecommunications Corp., Cubist Pharmaceuticals, Inc. and Catalytica Fine Chemicals.

Dr. Brimblecombe has served as a member of the Board of Directors since March 1993. Dr. Brimblecombe is currently Chairman of Vanguard Medica Ltd., Surrey, UK. Previously, he spent seventeen years at Smith Kline & French, most recently as Vice President, Collaborative Research and Development and Compound Acquisition (Worldwide), and as Chairman of Smith Kline & French Research Ltd. Prior to joining Smith Kline & French, he held positions in the UK National Health Service, Medical Research Council and Scientific Civil Service. Dr. Brimblecombe is also a director of Intercardia, Inc., Ontogeny, Inc. and several companies located in the United Kingdom.

Mr. Conklin has served as a member of the Board of Directors since February 1994. Mr. Conklin was Executive Vice President of Schering-Plough from 1986 to 1996. He retired from Schering-Plough at the end of 1996. Mr. Conklin is also a director of BioTransplant Inc. and Cytotherapeutics, Inc.

Mr. Helman has served as a member of the Board of Directors since April 1989. Mr. Helman is a General Partner of Greylock Equity Limited Partnership, Greylock Limited Partnership and Greylock Capital Limited Partnership, an original investor in the Company. He is a director of Millennium Pharmaceuticals, Inc. and several private companies.

Dr. Sanders joined the Board of Directors in December 1996. Dr. Sanders retired in 1995 as Chairman and Chief Executive Officer of Glaxo Inc. From 1989 to 1995 he was a member of the Board of Glaxo plc. From 1981 to 1989, Dr. Sanders held a number of posts at the Squibb Corporation, including that of Vice Chairman. Prior to that he was General Director of Massachusetts General Hospital. He has served on the Boards of Merrill Lynch and Co., Reynolds Metals Co. and Molton International Inc. Currently he is a member of the Board of Staffmark, Inc. and Magainin Pharmaceuticals.

#### DESCRIPTION OF CAPITAL STOCK

The Company's authorized capital stock consists of 50,000,000 shares of Common Stock, \$.01 par value, and 1,000,000 shares of Preferred Stock, \$.01 par value.

#### COMMON STOCK

Holders of Common Stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. Accordingly, holders of a majority of the shares of Common Stock entitled to vote in any election of directors may elect all of the directors standing for election. Holders of Common Stock are entitled to receive ratably such dividends, if any, as may be declared by the Board of Directors out of funds legally available therefor, subject to any preferential dividend rights of any outstanding Preferred Stock. Upon the liquidation, dissolution or winding up of the Company, the holders of Common Stock are entitled to receive ratably the net assets of the Company available after the payment of all debts and other liabilities and subject to any prior rights of any outstanding Preferred Stock. Holders of Common Stock have no preemptive, subscription, redemption or conversion rights. The outstanding shares of Common Stock are, and the shares offered by the Company in this offering, when issued and paid for, will be, fully paid and nonassessable. The rights, preferences and privileges of holders of Common Stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of Preferred Stock which the Company may designate and issue in the future.

As of December 31, 1996, there were 21,097,117 shares of Common Stock outstanding. Based upon the number of shares of Common Stock outstanding as of that date, and giving effect to the issuance of the 3,000,000 shares of Common Stock offered by the Company hereby (assuming that the Underwriters' over-allotment option is not exercised), there will be 24,097,117 shares of Common Stock outstanding upon the completion of this offering.

#### OPTIONS

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 were exercisable as of that date.

#### STOCKHOLDER RIGHTS PLAN

Pursuant to the Company's Stockholder Rights Plan, each share of Common Stock has an associated preferred share purchase right (a "Right"). 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, subject to adjustment (the "Purchase Price"). The Rights are not exercisable until after the acquisition by a person or group of 15% or more of the outstanding Common Stock (an "Acquiring Person") or after 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 (the earlier of such dates being called the "Distribution Date"). Until a Right is exercised, the holder thereof will have no rights as a

stockholder of the Company. Until the Distribution Date (or earlier redemption or expiration of the Rights), the Rights will be transferred with and only with the Common Stock.

In the event that any person or group becomes an Acquiring Person, each holder of a Right, other than Rights beneficially owned by 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.

At any time after any person becomes an Acquiring Person and prior to the acquisition by such person or group of 50% or more of the outstanding Common Stock, 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 or the potential acquisition through tender offer by a person or group 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.

The Rights have certain anti-takeover effects, in that they will cause substantial dilution to a person or group that attempts to acquire a significant interest in the Company on terms not approved by the Board of Directors.

## UNDERWRITING

Subject to the terms of and conditions of the Underwriting Agreement, the Underwriters named below (the "Underwriters"), through their Representatives, Cowen & Company, Bear, Stearns & Co. Inc., Robertson, Stephens & Company LLC and J.P. Morgan Securities Inc. have severally agreed to purchase from the Company the following respective numbers of shares of Common Stock at the public offering price less the underwriting discounts and commissions set forth on the cover page of this Prospectus:

UNDERWRITER	NUMBER OF SHARES OF COMMON STOCK
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Cowen & Company.....	984,000
Bear, Stearns & Co. Inc. ....	492,000
Robertson, Stephens & Company LLC.....	492,000
J.P. Morgan Securities Inc.....	492,000
Hambrecht & Quist LLC.....	120,000
Lehman Brothers Inc.....	120,000
Furman Selz LLC.....	60,000
Genesis Merchant Group Securities.....	60,000
Josephthal Lyon & Ross Incorporated.....	60,000
Raymond James & Associates, Inc.....	60,000
Vector Securities International, Inc.....	60,000
	-----
Total.....	3,000,000 =====

The Underwriting Agreement provides that the obligations of the Underwriters are subject to certain conditions precedent and that the Underwriters will purchase all shares of the Common Stock offered hereby if any such shares are purchased.

The Company has been advised by the Representatives of the Underwriters that the Underwriters propose to offer the shares of Common Stock to the public at the public offering price set forth on the cover page of this Prospectus and to certain dealers at such price less a concession not in excess of \$1.28 per share. The Underwriters may allow, and such dealers may reallow, a concession not in excess of \$.10 per share to certain other dealers. After the public offering, the offering price and other selling terms may be changed by the Representatives of the Underwriters.

The Company has granted to the Underwriters an option, exercisable not later than 30 days after the date of this Prospectus, to purchase up to 450,000 additional shares of Common Stock at the public offering price less the underwriting discounts and commissions set forth on the cover page of this Prospectus. To the extent that the Underwriters exercise such option, each of the Underwriters will have a firm commitment to purchase approximately the same percentage thereof that the number of shares of Common Stock to be purchased by it shown in the above table bears to 3,000,000, and the Company will be obligated, pursuant to the option, to sell such shares to the Underwriters. The Underwriters may exercise such option only to cover over-allotments made in connection with the sale of Common Stock offered hereby. If purchased, the Underwriters will offer such additional shares on the same terms as those on which the 3,000,000 shares are being offered.

The Company has agreed to indemnify the several Underwriters against certain liabilities, including liabilities under the Securities Act, as amended.

The Company, its directors, executive officers and certain of its stockholders, holding in the aggregate approximately 1,162,268 shares of Common Stock outstanding prior to this offering, have entered into agreements providing that, for a period of 90 days after the effective date of the Registration Statement of which this Prospectus is a part, they will not, without the prior written consent of Cowen & Company, offer for sale, sell or otherwise dispose of (or enter into any transaction



which is designed to, or could reasonably be expected to, result in the disposition by any person of) any shares of Common Stock or securities convertible or exchangeable for shares of Common Stock, or sell or grant options, rights or warrants with respect to any shares of Common Stock.

In connection with this offering, certain Underwriters and selling group members may engage in passive market making transactions in the Common Stock on the Nasdaq National Market in accordance with Rule 10b-6A under the Securities Exchange Act of 1934 or any successor rule or regulation thereto. Passive market making consists of displaying bids on the Nasdaq National Market limited by the prices of independent market makers and effecting purchases limited by such prices and in response to order flow. Net purchases by a passive market maker on each day are limited in amount to a specified percentage of the passive market maker's average daily trading volume in Common Stock during a specified prior period and must be discontinued when such limit is reached. Passive market making may stabilize the market price of Common Stock at a level above that which might otherwise prevail and, if commenced, may be discontinued at any time.

In connection with this offering, the Underwriters may over-allot or effect transactions which stabilize, maintain or otherwise affect the market price of the Company's Common Stock at levels above those which might otherwise prevail in the open market, including by entering stabilizing bids, effecting syndicate covering transactions or imposing penalty bids. A stabilizing bid means the placing of any bid, or effecting of any purchase, for the purpose of pegging, fixing or maintaining the price of the Company's Common Stock. A syndicate covering transaction means the placing of any bid on behalf of the underwriting syndicate or the effecting of any purchase to reduce a short position created in connection with the offering. A penalty bid means an arrangement that permits Cowen & Company to reclaim a selling concession from a syndicate member in connection with the offering when shares of the Company's Common Stock sold by the syndicate member are purchased in syndicate covering transactions. Such transactions may be effected on the Nasdaq National Market, in the over-the-counter market, or otherwise. Such stabilizing, if commenced, may be discontinued at any time.

#### LEGAL OPINIONS

The validity of the Common Stock being offered hereby will be passed upon for the Company by Warner & Stackpole LLP, Boston, Massachusetts. Kenneth S. Boger, a partner of Warner & Stackpole LLP, is an Assistant Clerk of the Company and a brother of Joshua Boger, Ph.D, the President of the Company. Warner & Stackpole LLP provides significant legal services to the Company. Mr. Boger and one of his partners are co-trustees of a trust for the benefit of Dr. Boger's children which owns Common Stock of the Company. Certain legal matters relating to the offering will be passed upon for the Underwriters by Testa, Hurwitz & Thibault, LLP.

#### EXPERTS

The consolidated balance sheets as of December 31, 1995 and 1996, 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 and the consolidated balance sheets as of December 31, 1994 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, 1995 are incorporated by reference in this Prospectus and have been incorporated herein in reliance on the reports of Coopers & Lybrand L.L.P., independent accountants, given on the authority of that firm as experts in accounting and auditing.

NO DEALER, SALESPERSON OR OTHER PERSON HAS BEEN AUTHORIZED TO GIVE ANY INFORMATION OR TO MAKE ANY REPRESENTATIONS OTHER THAN THOSE CONTAINED IN THIS PROSPECTUS, AND, IF GIVEN OR MADE, SUCH INFORMATION OR REPRESENTATIONS MUST NOT BE RELIED UPON AS HAVING BEEN AUTHORIZED BY THE COMPANY OR ANY OF THE UNDERWRITERS OR ANY OTHER PERSON. THIS PROSPECTUS DOES NOT CONSTITUTE AN OFFER TO SELL OR A SOLICITATION OF AN OFFER TO BUY ANY SECURITY OTHER THAN THE SHARES OF COMMON STOCK OFFERED HEREBY, NOR DOES IT CONSTITUTE AN OFFER TO SELL OR A SOLICITATION OF AN OFFER TO BUY ANY OF THE SECURITIES OFFERED HEREBY TO ANY PERSON IN ANY JURISDICTION IN WHICH IT IS UNLAWFUL TO MAKE SUCH AN OFFER OR SOLICITATION TO SUCH PERSON. NEITHER THE DELIVERY OF THIS PROSPECTUS NOR ANY SALE MADE HEREUNDER SHALL UNDER ANY CIRCUMSTANCES CREATE ANY IMPLICATION THAT THE INFORMATION CONTAINED HEREIN IS CORRECT AS OF ANY DATE SUBSEQUENT TO THE DATE HEREOF.

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 TABLE OF CONTENTS

	PAGE
	-----
Available Information.....	2
Incorporation of Certain Documents by Reference.....	2
Prospectus Summary.....	3
Risk Factors.....	6
Use of Proceeds.....	15
Price Range of Common Stock.....	15
Dividend Policy.....	15
Capitalization.....	16
Dilution.....	16
Selected Consolidated Financial Data.....	17
Management's Discussion and Analysis of Financial Condition and Results of Operations.....	18
Business.....	22
Management.....	42
Description of Capital Stock.....	44
Underwriting.....	46
Legal Opinions.....	47
Experts.....	47

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3,000,000 SHARES

VERTEX PHARMACEUTICALS  
 INCORPORATED

LOGO  
 COMMON STOCK

-----  
 PROSPECTUS  
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COWEN & COMPANY

BEAR, STEARNS & CO. INC.

ROBERTSON, STEPHENS & COMPANY

J.P. MORGAN & CO.  
 MARCH 7, 1997

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