SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

[X] Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 1998 or

[ ] Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Commission File Number: 0-19756

PROTEIN DESIGN LABS, INC.
(Exact name of registrant as specified in its charter)

Delaware	94-3023969
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

34801 Campus Drive
Fremont, CA 94555
(Address of principal executive offices)
Telephone Number (510) 574-1400

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

Title of each class	Name of each exchange on which registered
None	None

Securities registered pursuant to Section 12(g) of the Act:
Common Stock, Par value $.01
(Title of Class)

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

The aggregate market value of the voting stock held by non-affiliates of the registrant, based upon the closing sale price of the Common Stock on December 31, 1998, as reported on the NASDAQ National Market System, was approximately $430,015,087.

As of December 31, 1998, registrant had outstanding 18,595,247 shares of Common Stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive Proxy Statement for the registrant's 1999 Annual Meeting of Stockholders, to be filed with the Commission on or prior to April 30, 1999, are incorporated by reference into Part III of this report.

PART I

This Annual Report for Protein Design Labs, Inc. ("PDL" or the "Company"), in addition to historical information, contains forward-looking statements which involve risks and uncertainties. The Company's actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such a difference include, but are not limited to, those discussed in "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business" as well as those discussed elsewhere in this document. Actual events or results may differ materially from those discussed in this Annual Report.

ITEM 1. BUSINESS

OVERVIEW

PDL is a leader in the development of humanized monoclonal antibodies for the prevention and treatment of a variety of disease conditions. PDL currently has antibodies under development for autoimmune and inflammatory conditions, transplantation, cancers and viral infections. The Company uses proprietary computer software and other technologies to develop its SMART[TM] humanized antibodies for potential use as effective pharmaceuticals without the limitations of traditional mouse-derived (murine) antibodies. PDL believes that its

technologies are broadly applicable to a variety of diseases, as demonstrated by the Company's diverse product development pipeline and its collaborative, humanization and licensing arrangements with pharmaceutical and biotechnology companies. The Company has multiple product candidates in clinical development and numerous additional product candidates in preclinical studies. The Company's most advanced product, Zenapax[R] (daclizumab), has been approved for marketing in the United States ("U.S."), Europe and several other countries for the prophylaxis of acute organ rejection in patients receiving renal transplantations. This product is exclusively licensed to Hoffmann-La Roche Inc. and its affiliates ("Roche") and in 1998 the Company began receiving royalties from sales of Zenapax.

PDL has been issued patents in the U.S., Europe and Japan that the Company believes cover most humanized antibodies. The Company has leveraged this patent position by granting nonexclusive licenses under its antibody humanization patents for more than 20 humanized antibodies of pharmaceutical and biotechnology companies. Two such licensed antibodies, Synagis[TM] (palivizumab), developed by MedImmune, Inc. ("MedImmune") and Herceptin[R] (trastuzumab), developed by Genentech, Inc. ("Genentech") were approved for marketing in the U.S. in 1998. The Company receives royalties on sales of these products.

Antibodies have long had promise as therapeutic compounds to treat a variety of disease conditions. Traditional murine antibodies, however, have significant drawbacks which in most cases prevent them from becoming effective therapeutics. The most important of these is the human anti-mouse antibody ("HAMA") response, in which the murine antibody is recognized by the body's immune system as foreign and is rapidly neutralized and rendered ineffective. PDL's antibodies are designed to avoid these drawbacks, including the HAMA response. PDL's SMART antibodies are predominantly human antibodies that incorporate the structural information from the binding region of promising murine antibodies. By applying its proprietary SMART antibody technology, the Company is able to create recombinant antibodies with molecular structures that are approximately 90% human and 10% murine. The Company also has technologies to produce fully human antibodies to treat additional diseases using antibody therapy.

PDL has also established a program to discover and develop novel antibiotics to treat microbial infections, including those due to microbes that have developed resistance to available antibiotics. This program involves the identification of microbial genes expressed within the host and the screening of compounds which may be active against the genes or their products.

PDL's business strategy is to leverage its technologies, research expertise and intellectual property to become a profitable, research-based biotechnology company that manufactures and, in North America, markets its own products. Key aspects of PDL's strategy are to: (i) expand and develop the Company's product portfolio to provide multiple product candidates to treat a variety of diseases and conditions; (ii) establish collaborative relationships with pharmaceutical companies to reduce development costs and risks and to enhance commercial opportunities; (iii) leverage its patent position by providing humanization services for promising murine antibodies of other parties and/or licensing certain rights in exchange for near-term revenues and future royalty opportunities; and (iv) retain North American marketing rights to certain products to provide for greater revenue opportunities.

The Company actively seeks partnerships with other companies. The breadth of the Company's antibody technology and its patent position are key assets in attracting such companies to enter into various types of collaborative relationships. In one type of collaborative arrangement, the Company licenses certain marketing rights to one or more potential products developed by PDL in return for a licensing and signing fee, research funding and milestone payments, and royalties on potential product sales. In another type of arrangement, PDL uses its proprietary technology to develop a SMART antibody based on a promising murine antibody developed by a corporate partner. In such cases, PDL typically receives a licensing and signing fee and other payments, royalties on potential product sales and, in some cases, an option to co-promote in North America. Finally, PDL licenses its patents and patent applications in return for licensing and signing fees, royalties on potential product sales and, in some cases, milestone payments.

PRODUCTS AND PRODUCT CANDIDATES

The Company believes it is a leader in the development of humanized antibody-based therapeutics. One antibody product created by the Company has been approved for marketing by the U.S. Food and Drug Administration ("FDA") and certain foreign regulatory authorities, and the Company has a number of other product candidates in clinical and preclinical development.

Clinical Product Candidates

Table One summarizes the potential therapeutic indications, development status and commercial rights for PDL product candidates approved for marketing, currently in clinical studies or having recently completed certain clinical studies. The development and commercialization of the Company's clinical product candidates are subject to numerous risks and uncertainties. See "Risk Factors."

Table One

PRODUCT	POTENTIAL THERAPEUTIC INDICATIONS	DEVELOPMENT STATUS (1)	COMMERCIAL RIGHTS
Zenapax	Organ transplantation rejection	Approved for marketing (kidney)	Roche
	Uveitis	Phase I/II	
	Psoriasis	Phase I/II	
	Tropical spastic paraparesis ("TSP")	Phase I/II	
	Graft-versus-host-disease ("GVHD")(treatment)	Phase II	
	Certain blood cancers	Phase II	
SMART M195 Antibody	Acute myelogenous leukemia ("AML")	Phase II/III	PDL and Nippon Organon(2)
	Myelodysplastic syndrome	Phase II	
	Acute promyelocytic leukemia	Phase II	
SMART Anti-CD3 Antibody	Organ transplantation rejection and certain autoimmune diseases	Phase I/II	PDL
Ostavir (TM)("OST 577"), human anti-hepatitis B antibody	Treatment of chronic hepatitis B	Phase IIa	PDL and Novartis(3)

(1) The development status identifies the most advanced development status achieved for at least one of the listed potential therapeutic indications, but not all potential therapeutic indications have achieved the development status specified.

(2) Kanebo, Ltd. ("Kanebo") was the original licensee in Asia for these rights. In 1999, in connection with the transfer of Kanebo's research efforts in this area to the pharmaceutical division of Akzo Nobel N.V., Kanebo's rights under this agreement were assigned to Nippon Organon K.K. ("Nippon Organon")

(3) Novartis Pharmaceuticals Corporation ("Novartis") has certain rights to co-promote this product. See "Collaborative, Humanization and Patent Licensing Arrangements -- Novartis."

ZENAPAX. Zenapax is a humanized antibody, created by PDL and licensed exclusively to Roche, which binds to the IL-2 receptor on T cells. IL-2 is a lymphokine which stimulates T cells to divide and participate in an immune response. By blocking the binding of IL-2 to its receptor, Zenapax inhibits the proliferation of activated T cells and can suppress the immune response. Zenapax is more specific and less toxic than other immunosuppressive drugs such as cyclosporine or ORTHOCLONE OKT[R]3 ("OKT3"), because Zenapax suppresses only activated T cells involved in an immune response rather than all T cells and possibly other cells. Zenapax may also be useful to prevent rejection of other transplanted organs and for the treatment of certain autoimmune diseases, and has been tested clinically for several such indications.

In September 1996, Roche announced results from two multinational Phase III studies of Zenapax for the prevention of acute rejection episodes in a total of 535 cadaveric kidney transplantation recipients. Analysis of the data by Roche indicated that, when administered with a standard immunosuppressive regimen, Zenapax is effective in reducing the incidence of acute rejection episodes that occur within six months of transplantation, the primary endpoint of these two trials. In the double therapy trial, in which all patients received an immunosuppressive regimen of cyclosporine and prednisone, acute rejection episodes were reduced by 40% in patients treated with Zenapax (47% without Zenapax, 28% with Zenapax, p=0.001). In the triple therapy trial, in which all patients received cyclosporine, prednisone and azathioprine, the incidence of acute rejection episodes was reduced by 37% in patients treated with Zenapax (35% without Zenapax, 22% with Zenapax, p=0.03). Zenapax treatment was well-tolerated and did not cause an increase in serious adverse events.

Based on the results of these trials, Roche filed a Biologics License Application ("BLA") with the FDA in June 1997 for clearance to market Zenapax for the prophylaxis of acute organ rejection in patients receiving renal (kidney) transplantations. In October 1997, the FDA's Biological Response Modifiers Advisory Committee unanimously recommended to the FDA that Zenapax be approved, and the FDA granted such approval in December 1997. Zenapax was the first humanized antibody to be approved for marketing by the FDA. In March 1999, Zenapax was authorized for marketing in the countries of the European Union for the prevention of acute organ rejection in patients receiving kidney transplantations. Zenapax also has been approved for marketing in Argentina, Brazil,

Guatemala, Lithuania, Mexico, New Zealand, the Philippines, Russia, South Korea, Switzerland and Thailand. Additional Roche regulatory submissions for Zenapax are currently under review in Canada and other countries. PDL receives royalties on Roche's Zenapax sales. See "Risk Factors -- Dependence on Licensees with Respect to Marketed Products."

Roche has sponsored or authorized several additional clinical trials of Zenapax in transplantation and certain autoimmune diseases. Clinical trials also are ongoing at the National Cancer Institute ("NCI") to evaluate the potential of Zenapax in the treatment of certain blood cancers. The most recent published or publicly presented clinical results using Zenapax in certain of these potential indications include:

Prevent acute organ rejection in kidney transplantation in combination with CellCept[R]. In a Phase I/II study, 75 evaluable patients were randomized to receive either Roche's CellCept, cyclosporine and steroids, or those three drugs plus Zenapax. Six months post-transplantation, 12% of patients who received the three-drug combination with Zenapax had experienced a rejection episode, compared with 20% of patients who received the three-drug combination without Zenapax.

Prevent acute organ rejection in kidney transplantation without the use of calcineurin inhibitors. A single-arm multicenter Phase II study was conducted to evaluate the combination of Zenapax, CellCept and corticosteroids, without potentially toxic calcineurin inhibitors such as cyclosporine, in kidney transplantation. At 150 day median follow-up, the following results were observed in 98 evaluable patients: (a) 58% (57 of 98) of patients who received successful kidney transplants remained rejection episode-free; (b) rejection episodes in the remaining 41 patients were successfully reversed with corticosteroids or antibodies, and the patients were begun on a calcineurin inhibitor; (c) there were no grafts lost due to rejection episodes; and (d) median serum creatinine levels (a measure of kidney function) were improved in patients who did not receive calcineurin inhibitors as compared to those receiving such drugs in one of the Phase III Zenapax trials.

Treat GVHD. In a Phase II trial, two dosing schedules of Zenapax were evaluated in 43 allogeneic bone marrow transplant recipients with advanced or steroid-refractory GVHD. Using one dosing schedule, 29% of 24 patients had complete responses on day 43 after transplantation and 29% of the patients survived at least to day 120. Using the second dosing schedule, the response rate in 19 patients was 47% on day 43 and 53% of patients survived at least to day 120. Complete response rates by organ involved were 73% for skin, 70% for the gut and 17% for the liver.

Prevent organ rejection in liver transplantation and pediatric kidney transplantation. In a single-arm Phase II study using Zenapax with standard immunosuppressive drugs, one of 28 liver transplantation patients (3.6%) had an acute rejection episode within three months of transplantation. In a single-arm Phase I/II study using Zenapax with standard immunosuppressive drugs in pediatric kidney transplantation, three of 47 patients (6%) had acute rejection episodes within six months of transplantation.

Treat uveitis. At the National Eye Institute, ten patients are being evaluated in a Phase I/II trial using Zenapax for the treatment of uveitis, an autoimmune disease of the eye. The patients had been receiving other immunosuppressive drugs and were tapered off those drugs after initiation of Zenapax treatment. Nine of the ten patients have met the primary endpoint of maintenance of visual acuity for up to 28 months following initiation of Zenapax treatment.

Treat TSP. TSP is a neurological disease resulting from an interaction between retroviral infection and activation of the immune system. In a Phase I/II trial, three of nine TSP patients treated with Zenapax exhibited minimal improvement as measured by the Expanded Disability Severity Scale. The investigators in this trial consider TSP to be a clinical model for multiple sclerosis and concluded that this study demonstrated a potential role for Zenapax in treating autoimmune diseases.

In all of these clinical trials, Zenapax was well-tolerated and was not associated with an increase in serious adverse events.

There can be no assurance that Roche will pursue further clinical development of Zenapax in transplantation or autoimmune diseases in a timely manner, if at all. Roche has expressed to the Company limited interest in additional development of Zenapax in certain additional indications, including autoimmune diseases. Since the Company believes further clinical development of Zenapax would, if successful, increase the product's market potential, the Company is seeking to obtain certain clinical development rights from Roche. There can be no assurance that PDL would be able to obtain rights to develop Zenapax on acceptable terms or that Zenapax will be successfully developed for any additional indications. See "Risk Factors -- Dependence on Licensees with Respect to Marketed Products."

SMART M195 ANTIBODY. The SMART M195 Antibody is a humanized antibody that binds to the cancer cells of most patients with myeloid leukemias. Myeloid leukemia, the major form of leukemia in adults, is classified into two types -- AML and chronic myelogenous leukemia. There are at least 14,000 new cases of myeloid leukemia in the U.S. each year, of which more than 10,000 are AML. Currently, the survival rate of myeloid leukemia patients is very low, despite aggressive chemotherapy

and multiple, expensive hospitalizations.

PDL has adopted strategies designed to achieve improved efficacy of antibodies in certain cancers. First, PDL's anti-cancer antibodies are humanized, which allows for longer-term treatment by minimizing the HAMA response and potentially makes the antibodies more effective in killing cancer cells. Second, the Company is initially focusing on treatment of blood cancers, such as myeloid leukemia, that express high numbers of the target antigen and whose cancer cells are more readily accessible. Third, PDL generally plans to conduct trials of its antibodies in combination with, or following, other chemotherapeutic agents.

Several clinical trials using the SMART M195 Antibody have been conducted. Such trials include: (1) a multicenter Phase II/III trial to prolong remission in AML patients; (2) a Phase II trial to induce remission in relapsed AML patients; (3) a physician-sponsored Phase II trial in patients with newly diagnosed acute promyelocytic leukemia, one of several subtypes of AML; and (4) physician-sponsored trials using the SMART M195 Antibody linked to the radioisotopes 90-Yttrium or 213-Bismuth.

In the Phase II/III trial, initiated in 1994, patients first received a specific regimen of chemotherapy. Those patients entering clinical remission were randomized either to observation or to receive 20 doses of the SMART M195 Antibody given over an eight month period. Accrual of patients into this trial was terminated in 1998 because of slow enrollment. The Company is currently evaluating data from the patients entered, but after preliminary assessment does not expect the study to meet its primary endpoint of an increase in disease-free survival in patients treated with the SMART M195 Antibody.

In 1997, the Company initiated a Phase II trial of the SMART M195 Antibody in patients with relapsed or treatment refractory AML. The goal of the study is to determine whether high doses of the SMART M195 Antibody, administered as a single agent, can induce complete responses in this patient population, and to define the optimum dose for a potential Phase III trial. All of the 40 patients planned for enrollment in this study have been entered, and the Company is currently completing follow-up and analyzing the data. Preliminary results in this Phase II trial have demonstrated some biological activity and potential for efficacy of the SMART M195 Antibody. Based on these results, the Company is currently considering the design of a Phase III trial. The Phase III trial, if conducted, may employ a different dose of SMART M195 Antibody and a different regimen of chemotherapy than in previous trials. See "Risk Factors -- Limited Experience with Clinical Trials; Risk of Delay."

In 1999, a Phase II study to evaluate the safety and potential efficacy of the SMART M195 Antibody as treatment for patients with high risk myelodyspastic syndrome is being intitiated by the European Organization for the Research and Treatment of Cancer (commonly known as the EORTC). In this trial, patients with the myelodyspastic syndrome subtypes Refractory Anemia with Excess Blasts (commonly known as RAEB) and Refractory Anemia with Excess Blasts in Transformation (commonly known as RAEB-T) are administered four cycles of SMART M195 Antibody. The ability of the antibody to prevent progression of myelodyspastic syndrome to AML and improvement of hematopoiesis will be monitored. Exclusive development and marketing rights to the SMART M195 Antibody in Asia have been licensed to PDL's collaborative partner, Nippon Organon.

SMART ANTI-CD3 ANTIBODY. This humanized antibody binds to the CD3 antigen, a key receptor for stimulation of T cells. A competitive murine antibody, OKT3, also binds to the CD3 antigen. OKT3 is marketed by Johnson & Johnson for the treatment of acute kidney, liver and heart transplantation rejection. While highly effective, OKT3 is hampered by the often serious toxicity associated with its use, as well as by the HAMA response. In addition to being humanized, PDL's SMART Anti-CD3 Antibody has been engineered in a manner that reduces interactions with the immune system, a factor that the Company believes contributes to the toxicity of OKT3. The Company has retained worldwide rights to the SMART Anti-CD3 antibody and believes that potential indications for this antibody may include treatment of organ transplantation rejection and certain severe autoimmune diseases.

The Company has conducted a Phase I, open-label dose escalation trial of the SMART Anti-CD3 Antibody in kidney transplantation patients. A multiple-dose Phase I/II trial to evaluate escalating doses of the antibody for treatment of kidney transplantation rejection is currently underway. Additional trials are planned in transplantation and autoimmune diseases. There can be no assurance that the SMART Anti-CD3 Antibody will be found to be safe and effective in ongoing or future studies or that future studies will be initiated. See "Risk Factors -- Uncertainty of Clinical Trial Results."

OSTAVIR (HUMAN ANTI-HEPATITIS B ANTIBODY, OST-577). Ostavir is a human antibody licensed by PDL from Novartis. Ostavir binds to the major protein present on the surface of hepatitis B virus ("HBV"), the hepatitis B surface antigen. Infection with HBV is a common cause of liver disease. In most cases of infection, the patient's immune response is sufficient to ultimately eliminate the virus. However, an estimated 2% to 10% of HBV-infected patients become chronic carriers of the virus, and about one-fourth of these patients develop chronic hepatitis B ("CHB"), which is characterized by progressive liver damage and often

cirrhosis and liver cancer. In the U.S. there are an estimated one million chronic carriers of HBV, with 300,000 new HBV infections and more than 10,000 patients hospitalized due to HBV infections each year. Interferon-alpha is approved in the U.S. for treatment of CHB, although only 30-40% of treated patients respond to this treatment, which has significant side effects. In December 1998, the nucleoside analog lamivudine was approved for CHB treatment.

Phase I/II clinical trials of Ostavir have been conducted in patients undergoing liver transplantation due to CHB and in patients with chronic CHB. In 1996, PDL's former development partner for this antibody, Boehringer Mannheim Gmbh ("Boehringer Mannheim"), initiated a multinational, controlled Phase II trial to evaluate the antibody for use both as a single agent and in combination with interferon-alpha. In December 1997, after 16 of a planned 200 patients had been enrolled in this study, Boehringer Mannheim concluded, based on its analysis of the data, that when used as defined in the study, treatment with Ostavir gave rise, in certain patients, to self-resolving side effects induced by immune complex formation such as proteinuria and fever. Based on its analysis, Boehringer Mannheim terminated the study and returned all rights to this product to PDL.

In June 1998, a physician-sponsored Phase IIa clinical trial in Europe was initiated using Ostavir in combination with lamivudine in CHB patients. The Company believes that lamivudine treatment may reduce circulating levels of HBV and therefore reduce or eliminate the formation of immune complexes and associated side effects. Patient enrollment in this study is complete and follow-up is ongoing. The Company intends to seek a partner for the further development of Ostavir. See "Risk Factors -- Uncertainty of Clinical Trial Results." Novartis has certain rights to co-promote or co-market this antibody in North America or to receive royalties on product sales, if any. See "Collaborative, Humanization and Patent Licensing Arrangements -- Novartis."

YAMANOUCHI HUMANIZED ANTIBODY. Yamanouchi Pharmaceutical Co., Ltd. ("Yamanouchi") has in progress a Phase I clinical trial in Europe of an antibody humanized by the Company, an anti-gpIIb/IIIa monoclonal antibody fragment, for the potential treatment of certain cardiovascular disorders.

PRECLINICAL PRODUCT CANDIDATES

Table Two summarizes the potential therapeutic indications and commercial rights for certain of PDL's preclinical product candidates. "Preclinical" development includes in vitro testing, efficacy and toxicology testing in animals, process development and manufacturing scale-up prior to initiation of clinical trials. The Company has other compounds in development in addition to those listed below and is conducting research in other areas. The development and commercialization of the Company's preclinical product candidates are subject to numerous risks and uncertainties. See "Risk Factors."

Table Two

PRODUCT	CERTAIN POTENTIAL THERAPEUTIC INDICATIONS	COMMERCIAL RIGHTS
Autoimmune and Inflammatory Conditions		
SMART Anti-E/P-Selectin Antibody	Stroke, certain autoimmune diseases (e.g., psoriasis), asthma, atopic dermatitis	PDL
SMART Anti-Gamma-Interferon Antibody	Certain autoimmune diseases (e.g., Crohn's disease)	PDL
SMART Anti-L-Selectin Antibody	Trauma, adult respiratory distress syndrome ("ARDS"), reperfusion injury	PDL
Cancer		
SMART 1D10 Antibody	B cell lymphoma and leukemia	PDL
Viral Infections		
Human Anti-Varicella Zoster Antibody	Shingles (herpes zoster)	PDL and Novartis(1)
Human Anti-Herpes Antibody	Neonatal and genital herpes	PDL and Novartis(1)

(1) Novartis has certain rights to co-promote or co-market these

products. See "Collaborative, Humanization and Patent Licensing Arrangements -- Novartis."

AUTOIMMUNE DISEASE AND INFLAMMATION. Discoveries in immunology have made possible a new therapeutic approach to inflammation resulting from causes such as injury or autoimmune disease. Certain proteins called adhesion molecules, located on the surface of various types of cells, play a key role in inflammation by directing the movement of white blood cells from the bloodstream into the sites of tissue inflammation. In laboratory experiments conducted by PDL and others, antibodies have been shown to block the function of these adhesion molecules. PDL has developed several SMART antibodies against adhesion molecules.

PDL's SMART Anti-E/P-Selectin Antibody binds to two different adhesion molecules, E- and P-selectin, that occur on the surface of the cells on the inner lining of blood vessels. The Company believes that potential indications for such an antibody may include stroke, certain autoimmune diseases (including psoriasis), asthma and atopic dermatitis.

PDL's SMART Anti-Gamma-Interferon Antibody binds to and neutralizes gamma interferon, a lymphokine that stimulates several types of white blood cells. The Company believes that potential indications for this antibody may include inflammatory bowel disease, type I diabetes mellitus, multiple sclerosis and other autoimmune diseases.

PDL's SMART Anti-L-Selectin Antibody binds to L-selectin, an adhesion molecule on the surface of white blood cells. The Company believes that potential indications for this antibody may include trauma, ARDS and reperfusion injury (e.g., due to myocardial infarction). In studies conducted by independent investigators, treatment with the SMART Anti-L-Selectin Antibody resulted in a statistically significant improvement in survival in a primate model that simulates severe trauma.

CANCERS. Monoclonal antibodies have been considered to have particular promise for the treatment of cancers because of their ability to act upon specific cells without significantly affecting other cell populations as do many cancer chemotherapeutics. PDL's SMART 1D10 Antibody targets a form of the HLA-DR antigen present on B cells and may therefore be useful for the treatment of B cell lymphoma. This is a different target antigen than the two anti-CD20 antibodies either approved for marketing (Rituxan[R]) or in clinical trials (Bexaar[R]). The Company has a clinical trials agreement involving investigators at the NCI to conduct an initial NCI-sponsored clinical trial of the SMART 1D10 Antibody. PDL has submitted a Drug Master File to the FDA which describes the manufacture of antibody to be used in this trial.

VIRAL INFECTIONS. Varicella zoster virus ("VZV") is the virus responsible for causing chickenpox and shingles (herpes zoster). Shingles, a painful blistering condition of the skin, results from reactivation of the latent VZV that initially infected the patient years earlier. In the U.S., 10-20% of the population will develop shingles, with the incidence and severity of the condition increasing with age. A significant percentage of patients with shingles experience post-herpetic neuralgia, a very painful nerve condition which may last from weeks to years in some patients. Current antiviral therapies are moderately effective in treating shingles, but have little or no effect on post-herpetic neuralgia. PDL's Human Anti-Varicella Zoster Antibody effectively neutralizes all tested strains of VZV in in vitro studies.

Herpes simplex virus ("HSV") causes a painful recurring genital infection. The virus also causes neonatal herpes, an uncommon but very serious disease of newborn infants. PDL's Human Anti-Herpes Antibody binds to and effectively neutralizes all strains of HSV tested, and is well-tolerated and non-immunogenic in primates. In animal studies sponsored by the National Institute of Allergy and Infectious Disease Collaborative Antiviral Studies Group ("NIAID-CASG"), the antibody effectively protected mice from a lethal herpes infection when administered up to 72 hours after exposure to the virus. The Company believes that competition from antiviral drugs and the present reimbursement environment may limit the market opportunities for the Human Anti-Herpes Antibody in treating genital herpes. The Company has signed a Collaborative Research and Development Agreement with NIAID-CASG to provide the antibody primarily for clinical studies in neonatal herpes, but there can be no assurance NIAID-CASG will initiate or complete such studies in a timely manner, if at all.

PDL TECHNOLOGIES

BACKGROUND ON ANTIBODIES. Antibodies are protective proteins released by the immune system's B cells, a type of white blood cell, in response to the presence of a foreign substance in the body, such as a virus. B cells produce millions of different kinds of antibodies, which have slightly different shapes that enable them to bind to and thereby inactivate different targets. Antibodies of identical molecular structure that bind to a specific target are called monoclonal antibodies. Typically, mice have been used to produce monoclonal antibodies to a wide variety of molecular targets, including targets to which the human body does not normally produce antibodies. In particular, many murine antibodies have been developed as potential therapeutics to neutralize viruses, destroy cancer cells or inhibit immune function.

Although murine monoclonal antibodies are relatively easy to generate, they have significant drawbacks as therapeutics. Murine antibodies have a relatively short half-life in human patients, requiring them to be administered frequently. Moreover, murine antibodies are not adapted to work effectively with the human immune system and therefore often have limited ability to destroy the target, such as cancer cells. Most importantly, when injected into humans, a murine antibody is usually recognized by the body's immune system as foreign. The immune system therefore responds with a HAMA response, which rapidly neutralizes the murine antibody and renders it ineffective for further therapy. These problems have largely prevented murine antibodies from fulfilling their promise as therapeutics.

More recently, improved forms of antibodies, such as humanized, human and chimeric antibodies, have been developed using recombinant DNA and other technologies. These new antibodies can minimize or avoid many of the problems associated with murine antibodies and have led to a resurgence of interest in antibody therapeutics by the pharmaceutical and biotechnology industries. As a result of these advances, many monoclonal antibodies are now progressing into clinical trials. In a list of biotechnology medicines under clinical development in the U.S. published in 1998 by the Pharmaceutical Research and Manufacturers of America, antibodies comprised the single largest category (excluding vaccines), representing 74 of 350 products listed. In particular, PDL is aware of more than thirty humanized antibodies in clinical trials, including several antibodies addressing large markets that are being developed by major pharmaceutical companies. Seven humanized or chimeric antibodies have already been approved for marketing by the FDA.

PDL'S SMART ANTIBODY TECHNOLOGY. PDL believes that its patented SMART antibody technology has positioned the Company as a leader in the development of therapeutic antibodies that overcome the problems associated with murine antibodies. PDL's SMART antibodies are human-like antibodies designed using structural information from promising murine antibodies to capture the benefits of such antibodies while overcoming many of their limitations in treating humans. Clinical trials and preclinical studies have shown that PDL's SMART antibodies generally avoid a HAMA response and have a longer half-life than murine antibodies.

Every antibody contains two regions: a variable domain that binds to the target antigen and a constant domain that interacts with other portions of the immune system. The variable domain is composed of the complementarity determining regions ("CDRs") that directly bind to the target antigen and the framework region that holds the CDRs in position and helps maintain their required shape. Researchers have used genetic engineering to construct "humanized" antibodies that consist of the CDRs from a murine antibody with the framework region and constant domain from a human antibody. However, when the CDRs from the murine antibody are combined with the framework of the human antibody, the human framework often distorts the shape of the CDRs so they no longer bind well to the target. Therefore, it is usually necessary to substitute one or more amino acids from the murine antibody into the framework of the humanized antibody for it to maintain the binding ability of the murine antibody.

A SMART antibody is a humanized antibody designed by using PDL's proprietary computer technology to guide the choice of substitutions of amino acids from the murine antibody into the human antibody framework, based on structural information derived from the murine antibody. The construction of a SMART antibody starts with the identification of a murine antibody that has demonstrated favorable results in laboratory, animal or human studies. A model of the murine antibody is generated using proprietary computer modeling software that predicts the shapes of antibodies and eliminates the need for more time-consuming laboratory techniques. The resulting model is carefully analyzed to identify the few key amino acids in the framework most responsible for maintaining the shape of the CDRs. Software developed at PDL as well as the experience of the Company's computational chemists is important in this analysis. These few key murine amino acids are substituted into the human framework of the SMART antibody along with the murine CDRs in order to maintain their ability to bind well to the target. The resulting SMART antibody retains most or all of the binding ability of the murine antibody, but is about 90% human.

In 1996, the Company was issued U.S. and European patents which cover, in most circumstances, humanized antibodies that contain amino acid substitutions from the murine antibody in their framework. The Company was issued a similar patent in Japan in late 1998. The Company believes that most humanized antibodies require such amino acid substitutions in order to maintain high binding ability. The patents also cover pharmaceutical compositions containing such humanized antibodies and other aspects of PDL's SMART antibody technology. Two additional U.S. patents that cover other aspects of PDL's humanization technology were issued in 1997. PDL has filed similar patent applications in other countries. See "Patents and Proprietary Technology."

OTHER PDL TECHNOLOGIES. In addition to its SMART antibody technology, PDL employs additional antibody-based drug development technologies to overcome shortcomings of murine antibodies. The Company is also pursuing a program to discover novel antibiotics and a rational drug design program that leverages its computer expertise to potentially develop new drug candidates.

Human Antibodies. The use of fully human monoclonal antibodies is another approach to avoiding many of the problems associated with murine antibodies. In April 1993, PDL exclusively licensed from Novartis its patented "trioma" technology to generate certain human antibodies, along with four human antiviral antibodies. The trioma technology is used to produce fully human antibodies against viruses and potentially other organisms which infect humans. A key aspect of the technology is the use of a mouse-human hybrid cell line as the fusion partner to immortalize human antibody-producing B cells. Trioma cell lines generated in this manner often stably produce human antibodies. As with SMART antibodies, clinical trials and preclinical studies have shown that PDL's human antibodies generally avoid a HAMA response and have a longer half-life than murine antibodies. See "-- Collaborative, Humanization and Patent Licensing Arrangements -- Novartis."

Novel Antibiotics. PDL has begun a research program to discover and develop new antibiotics for the treatment of certain microbial infections, including infections caused by microbes that have developed resistance to available antibiotics. This program, which utilizes technology to identify microbial genes that are differentially expressed when microbes infect a host, was developed by Stanley Falkow, Ph.D., Professor of Microbiology and Immunology at Stanford University School of Medicine. Dr. Falkow, director of the program, was a member of PDL's Board of Directors prior to recently becoming an employee of the Company. If discovered, these microbial genes and their products may become potential targets for novel antibiotics, which may be identified by high throughput screening and medicinal chemistry. It is anticipated that aspects of this work will be conducted by PDL's corporate partners. PDL has entered into a collaborative agreement with Eli Lilly & Company ("Lilly"), under which Lilly will receive rights to products generated under this research program involving seven specific genera of bacteria. See "-- Collaborative, Humanization and Patent Licensing Arrangements -- Lilly."

Other New Technologies. The Company is pursuing a rational drug design program focusing on small molecules by extending the Company's computer modeling tools originally developed for its SMART antibody program. Rational drug design utilizes computer models of proteins and their interactions with smaller molecules to accelerate discovery and optimization of new drug compounds. Although PDL's technology is at an early stage, the Company believes that this application of its modeling algorithms may ultimately be used to develop non-antibody, small-molecule drug candidates. For that purpose, PDL has initiated a program in medicinal and combinatorial chemistry.

BUSINESS STRATEGY

PDL's objective is to leverage its research expertise and intellectual property primarily in the field of antibodies to become a profitable, research-based biotechnology company that manufactures and, in North America, markets its own products. PDL's strategy to achieve this objective involves the following elements:

Expand Product Portfolio. The Company believes that its SMART antibody technology is capable of converting essentially any promising murine antibody into a humanized antibody better suited for therapeutic use. As a result, the Company has been able to develop a broad portfolio of product candidates with potential applications to the prevention and treatment of autoimmune and inflammatory conditions, transplantation, cancers and viral infections. This diverse product pipeline enhances commercial opportunities and reduces the Company's reliance on individual products.

Establish Collaborative Arrangements. The Company actively seeks corporate partnerships with pharmaceutical companies, and to date has entered into partnerships with numerous such companies, including Roche and Lilly. Typically, the Company receives a licensing and signing fee, research funding and/or milestone payments, and the rights to royalties on product sales, if any, in return for certain marketing rights to one or more potential products developed at PDL. These revenues help to defray PDL's own product development expenses, while the partner typically bears significant direct responsibility for certain product development activities and expenses. One antibody developed under such a collaborative arrangement, Zenapax, has been approved and is marketed by Roche. The Company receives royalties on Roche's Zenapax sales.

Leverage Patent Position. An important aspect of PDL's business strategy is to obtain both near-term revenues and potential royalties by providing humanization services for promising murine antibodies of other parties and/or licensing limited rights under its issued humanized antibody patents and corresponding patent applications to other companies developing humanized antibodies. These arrangements typically involve a combination of licensing and signing fees, milestone payments, annual maintenance fees and royalties on product sales, if any. Since November 1996, PDL has also entered into thirteen patent licensing arrangements with other companies. In addition to Zenapax, two antibodies licensed under PDL patents, Herceptin, developed by Genentech, and Synagis, developed by MedImmune, are currently marketed. PDL receives royalties on Herceptin and Synagis product sales.

The Company's patents are also helpful in inducing other companies to enter into humanization or other collaborative relationships with the Company, in which PDL uses its proprietary technology to develop SMART

antibodies based on promising murine antibodies developed by the other companies. PDL has entered into eight such humanization relationships. In addition to paying PDL licensing and signing fees, milestone payments and royalties on product sales, if any, in some cases the other companies have granted PDL options to obtain North American co-promotion rights.

Retain North American Marketing Rights. Where appropriate, PDL retains North American marketing rights to its potential products. This strategy provides the Company with future revenue opportunities.

COLLABORATIVE, HUMANIZATION AND PATENT LICENSING ARRANGEMENTS

The Company has entered into numerous arrangements with pharmaceutical and biotechnology companies related to either the Company's own antibody product candidates or other technology, its expertise in antibody humanization and/or its patent estate relative to humanized antibodies.

Collaborative Arrangements.

Roche. In 1989, PDL entered into agreements with Roche to collaborate on the research and development of humanized and chimeric antibodies which bind to the IL-2 receptor, including Zenapax. Under these agreements, Roche has exclusive, worldwide rights to manufacture, market and sell Zenapax. The arrangement provides for research and development funding, milestone and bonus payments and royalties to PDL under the agreements. Most of such milestone and bonus payments have already been received from Roche, and Roche has completed its research funding to PDL under these agreements. PDL began receiving royalties on sales of Zenapax in 1998. Royalties to PDL are subject to certain offsets for milestones, third party royalties and patent expenses paid by Roche under the arrangement. See "Risk Factors -- Dependence on Licensees with Respect to Marketed Products."

Lilly. In December 1997, PDL entered into a collaborative agreement with Lilly to discover and develop new antimicrobial agents for the treatment of certain microbial infections, including those caused by microbes that have developed resistance to available antibiotics. The agreement involves a program to identify microbial genes that are differentially expressed when microbes infect a host. PDL received an initial payment of $3 million under the agreement. The agreement further provides for additional research funding for a total of up to $9.6 million for the second through fifth years of the agreement, if the agreement is not earlier terminated. PDL can also receive milestone payments for identification of gene targets and for each compound selected for development by Lilly. Lilly will receive exclusive worldwide rights to gene targets and human pharmaceutical and related diagnostic products generated under the research program directed to seven specific genera of bacteria. PDL is entitled to royalties on Lilly sales of such products, if any, and the parties have agreed to negotiate co-promotion rights in the U.S. and Canada. In addition, under certain conditions, PDL will have an option to develop certain compounds identified through the collaboration.

Novartis. In April 1993, PDL and Novartis entered into agreements providing for the grant of exclusive licenses to PDL of four human anti-viral antibodies and other related technology and antibodies from Novartis. The four human monoclonal antibodies target cytomegalovirus, the hepatitis B virus, herpes simplex viruses, and varicella zoster virus, respectively. In addition, PDL received an exclusive license to the SMART ABL 364 Antibody, an antibody previously humanized by PDL for Novartis. This arrangement also included exclusive licenses to the Novartis trioma human antibody technology and patents as well as the purchase of certain antibody supplies and related manufacturing equipment. In consideration for the licenses and assets transferred, PDL initially paid Novartis $5 million and agreed to provide up to an additional $5 million in future milestone payments in the event of certain product approvals under the agreements.

Under the terms of the Novartis agreements, PDL has the right to manufacture and market the antibodies acquired from Novartis throughout the world. Novartis retained certain co-promotion and co-marketing rights, and rights to royalties on sales by PDL of licensed products in countries where Novartis does not sell these antibodies with PDL under the co-promotion and co-marketing arrangements. In November 1993, PDL paid Novartis an additional $2.75 million to amend the April 1993 agreement relating to the human antibodies in order to terminate certain of Novartis' co-promotion and co-marketing rights in countries outside of the U.S., Canada and Asia and to reduce royalties Novartis may earn from the sale of human antibody products in countries outside of the U.S., Canada and Asia.

Nippon Organon/Kanebo. In February 1992, PDL and Kanebo entered into a product licensing agreement whereby Kanebo received an exclusive license to the SMART M195 Antibody for therapeutic uses in certain Asian countries, including Japan, in exchange for a licensing and signing fee, research funding, milestone payments and royalties on product sales, if any. The research funding period under the agreement expired in September 1993. Also in September 1993 and May 1995, PDL entered into purchase agreements with Kanebo pursuant to which PDL sold Kanebo preclinical and clinical quantities of the SMART M195 Antibody. In 1999, in connection with the transfer of Kanebo's research efforts in this area to the pharmaceutical division of Akzo Nobel N.V., Kanebo's rights

under this agreement were assigned to Nippon Organon.

Humanization and Patent Licensing Arrangements.

Yamanouchi. In February 1991, PDL and Yamanouchi entered into a collaborative agreement providing for the humanization of a murine anti-platelet (anti-gpIIb/IIIa) antibody developed by Yamanouchi for potentially treating certain cardiovascular disorders. Yamanouchi is currently conducting Phase I clinical trials in Europe with this humanized antibody. Yamanouchi has exclusive, worldwide rights to this antibody and is responsible for all clinical trials and for obtaining necessary government regulatory approvals. The agreement provides for milestone payments, all of which have been received by the Company, and royalties on product sales, if any.

Mochida. In December 1995, PDL and Mochida Pharmaceutical Co., Ltd. ("Mochida") entered into an agreement providing for the humanization by PDL of a murine antibody that has potential for treating certain infectious diseases. PDL received a licensing and signing fee and milestone payments and can earn royalties on product sales, if any. In addition, PDL has an option to co-promote the antibody in North America.

Toagosei. In September 1996, PDL and Toagosei Co., Ltd. ("Toagosei") entered into an agreement providing for the humanization by PDL of a murine antibody that has potential for treating cancer. PDL received a licensing and signing fee and milestone payments and can earn royalties on product sales, if any. PDL also has an option to co-promote the compound in North America. In the fourth quarter of 1997, Toagosei made a $2.0 million private equity investment in PDL in return for 44,568 newly issued shares of PDL common stock at a purchase price of $44.875 per share. In 1998, PDL conducted a manufacturing campaign pursuant to which Toagosei and PDL shared the costs to produce material for clinical development of the humanized antibody by the parties.

Genetics Institute. In December 1996, PDL and Genetics Institute, Inc. ("Genetics Institute"), a wholly-owned subsidiary of American Home Products Corporation, entered into an agreement pursuant to which PDL will initially develop three humanized monoclonal antibodies based on murine antibodies developed by Genetics Institute that modulate the immune co-stimulatory pathway. In addition, Genetics Institute received a worldwide, nonexclusive license for those antibodies under PDL's humanized antibody patents. To date, PDL has received a $2.5 million licensing and signing fee and a milestone payment and is entitled to receive additional milestone payments and royalties on product sales, if any. In addition, PDL received an option to co-promote the products in North America under certain conditions. The agreement contemplates that PDL may collaborate with Genetics Institute to humanize additional antibodies in the field.

Teijin. In March 1997, PDL and Teijin Limited ("Teijin") entered into an agreement providing for the humanization by PDL of a murine antibody to a toxin produced by the E. coli O157 bacteria that can cause serious illness or death from the consumption of contaminated food. PDL has received a licensing and signing fee and milestone payment and is entitled to royalties on product sales, if any.

Ajinomoto. In July 1997, PDL and Ajinomoto Co., Inc. ("Ajinomoto") entered into an agreement providing for the humanization by PDL of a murine antibody directed at cardiovascular conditions. PDL has received a licensing and signing fee and milestone payments and is entitled to royalties on product sales, if any. In addition, PDL received certain rights to obtain co-promotion rights to the potential product in North America.

Genentech. In September 1998, Genentech and the Company entered into an arrangement to grant each party a right to obtain a nonexclusive license to certain intellectual property rights related to monoclonal antibodies held by the other party. Under the agreement, Genentech paid the Company a $6.0 million non-creditable, non-refundable fee, and the Company paid Genentech a $1.0 million non-creditable, non-refundable fee. Each party has rights to license antibodies under specified patents and patent applications held by the other party upon payment of an additional fee of at least $1.0 million per antibody. Licensed antibodies will bear royalties on product sales, if any. The agreement initially covers up to six antibodies per company. The number of licensed antibodies may be increased and the term of the agreement extended upon payment of additional fees. In November 1998, the Company and Genentech entered into a nonexclusive license agreement under this arrangement for Herceptin, pursuant to which PDL received a $1.0 million licensing and signing fee and receives royalties on sales of Herceptin.

Other Patent License Agreements. PDL has entered into patent licensing agreements with a number of other companies covering humanized antibodies. In each licensing agreement, PDL granted a worldwide, nonexclusive license under its humanized antibody patents to the other company for an antibody to a specific target antigen. In general, PDL receives a licensing and signing fee and has the right to receive annual maintenance fees and royalties on product sales, if any. Under some of these agreements, PDL also may receive milestone payments and, under certain circumstances, certain marketing rights. In addition to Herceptin, PDL receives royalties on sales of Synagis, a licensed antibody developed by MedImmune which is currently marketed in the U.S. Since November 1996, PDL has entered into thirteen patent licensing

agreements, including agreements with Sankyo Co., Ltd., Biogen, Inc., IDEC Pharmaceuticals Corporation, NeoRx Corporation, Elan Corporation, Tanox Biosystems, Inc. and Medarex, Inc. relating to antibodies humanized by or for those companies.

For a discussion of certain risks related to the Company's collaborative, humanization and patent licensing arrangements, see "Risk Factors -- Uncertainty of Patents and Proprietary Technology; Opposition Proceedings; -- Dependence on Collaborative Partners."

MANUFACTURING

PDL currently leases approximately 47,000 square feet housing its manufacturing facilities in Plymouth, Minnesota. PDL intends to continue to manufacture potential products for use in preclinical studies and clinical trials using this manufacturing facility in accordance with standard procedures that comply with current Good Manufacturing Practices ("cGMP") and appropriate regulatory standards. Roche is responsible for manufacturing Zenapax.

In order to obtain regulatory approvals and to expand its capacity to produce its products for commercial sale at an acceptable cost, PDL will need to improve and expand its existing manufacturing capabilities and demonstrate to the FDA its ability to manufacture its products using controlled, reproducible processes. Accordingly, the Company continues to evaluate plans to improve and expand the capacity of its current facility. Such plans, if fully implemented, would result in substantial costs to the Company and may require a suspension of manufacturing operations during construction. See "Risk Factors -- Absence of Manufacturing Experience" and "-- Uncertainties Resulting From Manufacturing Changes."

PATENTS AND PROPRIETARY TECHNOLOGY

The Company's success is significantly dependent on its ability to obtain and maintain patent protection for its products and technologies and to preserve its trade secrets and operate without infringing on the proprietary rights of third parties. The Company files and prosecutes patent applications to protect its inventions. No assurance can be given that the Company's pending patent applications will result in the issuance of patents or that any patents will provide competitive advantages or will not be invalidated or circumvented by its competitors. Moreover, no assurance can be given that patents are not issued to, or patent applications have not been filed by, other companies which would have an adverse effect on the Company's ability to use, import, manufacture, market or sell its products or maintain its competitive position with respect to its products. Other companies obtaining patents claiming products or processes useful to the Company may bring infringement actions against the Company. As a result, the Company may be required to obtain licenses from others or not be able to use, import, manufacture, market or sell its products. Such licenses may not be available on commercially reasonable terms, if at all.

Patents in the U.S. are issued to the party that is first to invent the claimed invention. Since patent applications in the U.S. are maintained in secrecy until patents issue, the Company cannot be certain that it was the first inventor of the inventions covered by its pending patent applications or patents or that it was the first to file patent applications for such inventions. The patent positions of biotechnology firms generally are highly uncertain and involve complex legal and factual questions. No consistent policy has emerged regarding the breadth of claims in biotechnology patents, and patents of biotechnology products are uncertain, so that even issued patents may later be modified or revoked by the U.S. Patent and Trademark Office ("PTO") or the courts. Moreover, the issuance of a patent in one country does not assure the issuance of a patent with similar claims in another country, and claim interpretation and infringement laws vary among countries, so the extent of any patent protection may vary in different countries.

The Company has a number of patents and has exclusively licensed certain patents from third parties. In June 1996, the Company was issued a U.S. patent covering Zenapax and certain related antibodies against the IL-2 receptor. The Company has been issued patents by the PTO, the Japanese Patent Office ("JPO") and European Patent Office ("EPO") that relate to humanized antibodies and the methods of making those antibodies. With respect to its issued antibody humanization patents, the Company believes the patent claims cover Zenapax, Herceptin and Synagis and, based on its review of the scientific literature, most other humanized antibodies. In addition, the Company is currently prosecuting other patent applications with the PTO and in other countries, including members of the European Patent Convention, Canada, Japan and Australia. The patent applications are directed to various aspects of the Company's SMART and human antibodies, antibody technology and other programs, and include claims relating to compositions of matter, methods of preparation and use of a number of the Company's compounds. However, the Company does not know whether any pending applications will result in the issuance of patents or whether such patents will provide protection of commercial significance. Further, there can be no assurance that the Company's patents will prevent others from developing competitive products using related technology.

The Company's humanization patent issued by the EPO applies in the United Kingdom, Germany, France, Italy and eight other European countries. The EPO (but not PTO) procedures provide for a nine-month

opposition period in which other parties may submit arguments as to why the patent was incorrectly granted and should be withdrawn or limited. Eighteen notices of opposition to the Company's European patent were filed during the opposition period, including oppositions by major pharmaceutical and biotechnology companies, which cited references and made arguments not considered by the EPO and PTO before grant of the respective patents. The Company has submitted its response to the briefs filed by these parties. The entire opposition process, including appeals, may take several years to complete, and although the EPO patent remains enforceable during this lengthy process, the validity of the EPO patent will be at issue, which may limit the Company's ability to negotiate or collect royalties or to negotiate future collaborative research and development agreements based on this patent. A 6-month opposition period has begun with respect to the Company's humanization patent issued in Japan in late 1998. Similar to the process in Europe, third parties have the opportunity to file their opposition to the issuance of the JPO patent. The Company intends to vigorously defend the European patent and, if necessary, the Japanese patent and U.S. patents; however, there can be no assurance that the Company will prevail in the opposition proceedings or any litigation contesting the validity or scope of these patents. If the outcome of the European or Japanese opposition proceeding or any litigation involving the Company's antibody humanization patents were to be unfavorable, the Company's ability to collect royalties on existing licensed products and to license its patents relating to humanized antibodies may be materially adversely affected, which could have a material adverse affect on the business and financial condition of the Company. In addition, such proceedings or litigation, or any other proceedings or litigation to protect the Company's intellectual property rights or defend against infringement claims by others, could result in substantial costs and diversion of management's time and attention, which could have a material adverse effect on the business and financial condition of the Company.

A number of companies, universities and research institutions have filed patent applications or received patents in the areas of antibodies and other fields relating to the Company's programs. Some of these applications or patents may be competitive with the Company's applications or contain claims that conflict with those made under the Company's patent applications or patents. Such conflicts could prevent issuance of patents to the Company, provoke an interference with the Company's patents or result in a significant reduction in the scope or invalidation of the Company's patents, if issued. An interference is an administrative proceeding conducted by the PTO to determine the priority of invention and may determine questions of patentability. Moreover, if patents are held by or issued to other parties that contain claims relating to the Company's products or processes, and such claims are ultimately determined to be valid, no assurance can be given that the Company would be able to obtain licenses to these patents at a reasonable cost, if at all, or to develop or obtain alternative technology.

The Company is aware that Celltech Limited ("Celltech") has been granted a patent by the EPO covering certain humanized antibodies ("European Adair Patent"), which the Company has opposed, and that Celltech has also been issued a corresponding U.S. patent (the "U.S. Adair Patent") that contains claims that may be considered broader in scope than the European Adair Patent. The Company is currently reviewing the claims under the U.S. Adair Patent in an effort to determine its future course of action with respect to this patent. If it were determined that the Company's SMART antibodies were covered by the European or U.S. Adair Patents, the Company might be required to obtain a license under such patents or to significantly alter its processes or products, if necessary to make, use or sell its products in Europe and the U.S. There can be no assurance that the Company would be able to successfully alter its processes or products to avoid infringing such patents or to obtain such a license from Celltech on commercially reasonable terms, if at all, and the failure to do so could have a material adverse effect on the business and financial condition of the Company.

In addition, if the claims of the U.S. Adair Patent conflict with claims in the Company's U.S. patents or patent applications, there can be no assurance that an interference would not be declared by the PTO, which could take several years to resolve and could involve significant expense to the Company. Also, such conflict could prevent issuance of additional patents to the Company relating to humanization of antibodies or result in a significant reduction in the scope or invalidation of the Company's patents, if issued. Moreover, uncertainty as to the validity or scope of patents issued to the Company relating generally to humanization of antibodies may limit the Company's ability to negotiate or collect royalties or to negotiate future collaborative research and development agreements based on these patents.

The Company is aware that Lonza Biologics, Inc. has a patent issued in Europe to which the Company does not have a license (although Roche has advised the Company that it has a license covering Zenapax), which may cover a process the Company uses to produce its potential products. If it were determined that the Company's processes were covered by such patent, the Company might be required to obtain a license under such patent or to significantly alter its processes or products, if necessary to manufacture or import its products in Europe. There can be no assurance that the Company would be able to successfully alter its processes or products to avoid infringing such patent or to obtain such a license on commercially reasonable terms, if at all, and

the failure to do so could have a material adverse effect on the business and financial condition of the Company.

The Company is also aware that Stanford University has a patent issued in the U.S. to which the Company does not have a license, which may cover a process the Company uses to produce its potential products. The Company has been advised that an exclusive license has been previously granted to a third party under this patent. If it were determined that the Company's processes were covered by such patent, the Company might be required to obtain a license under such patent or to significantly alter its processes or products, if necessary to manufacture or import its products in the U.S. There can be no assurance that the Company would be able to successfully alter its processes or products to avoid infringing such patent or to obtain such a license on commercially reasonable terms, if at all, and the failure to do so could have a material adverse effect on the business and financial condition of the Company. Moreover, any alteration of processes or products to avoid infringing the patent could result in a significant delay in achieving regulatory approval with respect to the products affected by such alterations.

In addition to seeking the protection of patents and licenses, the Company also relies upon trade secrets, know-how and continuing technological innovation which it seeks to protect, in part, by confidentiality agreements with employees, consultants, suppliers and licensees. There can be no assurance that these agreements will not be breached, that the Company would have adequate remedies for any breach or that the Company's trade secrets will not otherwise become known, independently developed or patented by competitors.

GOVERNMENT REGULATION

The manufacturing, testing and marketing of PDL's products are subject to regulation by numerous governmental authorities in the U.S. and other countries based upon their pricing, safety and efficacy. In the U.S., pharmaceutical (biologic) products are subject to rigorous FDA regulation. The federal Food, Drug and Cosmetic Act ("FD&C Act"), Public Health Service Act ("PHS Act") and other federal, state and local regulations govern the manufacture, testing, labeling, storage, record keeping, clinical and nonclinical studies to assess safety and efficacy, approval, advertising and promotion of pharmaceutical products. The process of developing and obtaining approval for a new pharmaceutical product within this regulatory framework requires a number of years and the expenditure of substantial resources. There can be no assurance that necessary approvals will be obtained on a timely basis, if at all.

In addition to the requirement for FDA approval of each pharmaceutical product, each pharmaceutical product manufacturing facility must be registered with, and approved by, the FDA. The manufacturing and quality control procedures must conform to cGMP in order to receive FDA approval. Pharmaceutical product manufacturing establishments are subject to inspections by the FDA and local authorities as well as inspections by authorities of other countries. To supply pharmaceutical products for use in the U.S., foreign manufacturing establishments must comply with cGMP and are subject to periodic inspection by the FDA or by corresponding regulatory agencies in such countries under reciprocal agreements with the FDA. Moreover, pharmaceutical product manufacturing facilities may also be regulated by state, local and other authorities.

For marketing of pharmaceutical products outside the U.S., PDL is subject to foreign regulatory requirements governing marketing approval and pricing, and FDA and other U.S. export provisions should the pharmaceutical product be manufactured in the U.S. Requirements relating to the manufacturing, conduct of clinical trials, product licensing, promotion, pricing and reimbursement vary widely in different countries. Difficulties or unanticipated costs or price controls may be encountered by PDL or its licensees or its marketing partners in their respective efforts to secure necessary governmental approvals to market potential pharmaceutical products, which could delay or preclude PDL or its licensees or its marketing partners from marketing their potential pharmaceutical products.

The basic steps required by the FDA before a new pharmaceutical product for human use may be marketed in the U.S. include (i) preclinical laboratory and animal tests, (ii) submission to the FDA of an application for an Investigational New Drug ("IND") which must be reviewed by the FDA before clinical trials may begin, (iii) completion of adequate and well-controlled human clinical trials to establish the safety and efficacy of the pharmaceutical product for its intended use, (iv) for therapeutic monoclonal antibodies, submission of a Biologics License Application ("BLA") to the FDA, and (v) FDA approval of the BLA prior to any commercial sale or shipment of the pharmaceutical product.

Preclinical tests for safety are conducted in the laboratory and in animals in compliance with FDA good laboratory practices regulations. Other additional tests are conducted to assess the potential safety and biological activity of the pharmaceutical product in order to support a sponsor's contention that it is reasonably safe to conduct proposed clinical investigations. The results of these studies are submitted to the FDA as part of an IND. Testing in humans may begin 30 days after filing an IND unless the FDA requests additional information or raises questions or concerns that must be resolved before the FDA will permit the study to proceed. In such cases, there can be no assurance that

resolution will be achieved in a timely manner, if at all.

Clinical trials are conducted in accordance with good clinical practices based on regulations promulgated by the FDA and under protocols that include detail on the objectives of the trial, 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 an IND. Further, each clinical trial must be reviewed and approved by an independent institutional review board ("IRB") at each of the medical institutions at which the trial will be conducted. There can be no assurance that submission of a protocol to an IRB or an IND to the FDA will result in the initiation or completion of a clinical investigation. Clinical trials are typically conducted in three sequential phases, although the phases may overlap. In Phase I, the pharmaceutical product is typically tested in a small number of healthy people or patients to initially determine safety, dose tolerance (including side effects associated with increasing doses), metabolism, distribution and excretion. Phase II usually involves studies in a limited patient population to obtain a preliminary determination of efficacy, to identify an optimal dose and to further identify safety risks. Phase III trials are larger, multi-center trials undertaken to provide further confirmation of efficacy and provide additional safety information in a specific patient population. The FDA reviews the results of the trials and may discontinue them at any time for safety reasons or other reasons if they are deemed to be non-compliant with FDA regulations. There can be no assurance that Phase I, II or III clinical trials will be completed successfully within any specific time period, if at all, with respect to any of the Company's or its collaborators' pharmaceutical products that are subject to such testing requirements.

The FDA has been engaged in regulatory reform efforts aimed at reducing the regulatory burden on manufacturers of certain biotechnology products. For example, in May 1996, the FDA issued regulations that eliminate the previous requirement of a separate establishment license application, in addition to the product license application, for certain categories of biotechnology products, including the pharmaceutical products of the Company. Furthermore, the FDA has announced its intention to adopt a single approval application for all pharmaceutical products. There can be no assurance, however, that implementation of these changes will benefit the Company or otherwise reduce the regulatory requirements applicable to the Company or that these changes will not result in the imposition of other, more burdensome obligations on the Company in connection with regulatory review of the Company's products. In any event, the results of the preclinical and clinical trials and a description of the manufacturing process and tests to control the quality of the pharmaceutical product must be submitted to the FDA in a BLA for approval. The approval process is likely to require substantial time and resource commitment by an applicant. Approval is influenced by a number of factors, including the severity of the disease being treated, availability of alternative treatments, and the risks and benefits of the proposed therapeutic as demonstrated in the clinical trials. Additional data or clinical trials may be requested by the FDA and may delay approval. There is no assurance that FDA approval will be granted on a timely basis, if at all.

After FDA approval for the initial indications and dosage forms, further studies may be required by the FDA to gain approval for labeling of the pharmaceutical product for other disease indications or dosage forms, or to monitor for adverse effects. Both before and after approval is obtained, a pharmaceutical product, its manufacturer and the holder of the BLA for the pharmaceutical product are subject to comprehensive regulatory oversight. The FDA may deny a BLA if applicable regulatory criteria are not satisfied, require additional testing or information or require postmarketing testing and surveillance to monitor the safety or efficacy of the pharmaceutical product. Moreover, even if regulatory approval is granted, such approval may be subject to limitations on the indicated uses for which the pharmaceutical product may be marketed.

Approvals may be withdrawn if compliance with regulatory standards is not maintained or if problems with the pharmaceutical product occur following approval. Among the conditions for BLA approval is the requirement that the manufacturer of the pharmaceutical product comply with cGMP. In addition, under a BLA, the manufacturer continues to be subject to facility inspection and the applicant must assume responsibility for compliance with applicable pharmaceutical product and establishment standards. Violations of regulatory requirements at any stage may result in various adverse consequences, including FDA refusal to accept a license application, total or partial suspension of licensure, delay in approving or refusal to approve the pharmaceutical product or pending marketing approval applications, warning letters, fines, injunctions, withdrawal of the previously approved pharmaceutical product or marketing approvals and/or the imposition of criminal penalties against the manufacturer and/or BLA holders. In addition, later discovery of previously unknown problems may result in new restrictions on such pharmaceutical product, manufacturer and/or BLA holders, including withdrawal of the pharmaceutical product or marketing approvals and pharmaceutical product recalls or seizures.

In addition to regulations enforced by the FDA, the Company is subject to federal, state and local laws and regulations governing the use, generation, manufacture, storage, discharge, handling and disposal of certain materials and wastes used in its operations, some of which are classified as "hazardous." There can be no assurance that the Company will not be required to incur significant costs to comply with

environmental laws, the Occupational Safety and Health Act, and state, local and foreign counterparts to such laws, rules and regulations as its manufacturing and research activities are increased or that the operations, business and future profitability of the Company will not be adversely affected by current or future laws, rules and regulations.

Although the Company believes that its safety processes and procedures and its handling and disposing of materials and wastes comply with applicable laws, rules and regulations, the risk of accidental contamination or injury from these materials cannot be eliminated. In the event of such an accident, the Company could be held liable for any damages that result and any such liability could exceed the resources of the Company. In addition, the Company cannot predict the extent of the adverse effect on its business or the financial and other costs that might result from any new government requirements arising out of future legislative, administrative or judicial actions. Compliance with such laws, rules and regulations does not have, nor is such compliance presently expected to have, a material adverse effect on the Company's business. However, the Company cannot predict the extent of the adverse effect on its business or the financial and other costs that might result from any new government requirements arising out of future legislative, administrative or judicial actions.

COMPETITION

The Company's potential products are intended to address a wide variety of disease conditions, including autoimmune diseases, transplantation, inflammatory conditions, cancers and viral infections. Competition with respect to these disease conditions is intense and is expected to increase. This competition involves, among other things, successful research and development efforts, obtaining appropriate regulatory approvals, establishing and defending intellectual property rights, successful product manufacturing, marketing, distribution, market and physician acceptance, patient compliance, price and potentially securing eligibility for reimbursement or payment for the use of the Company's product. The Company believes its most significant competitors may be fully integrated pharmaceutical companies with substantial expertise in research and development, manufacturing, testing, obtaining regulatory approvals, marketing and securing eligibility for reimbursement or payment, and substantially greater financial and other resources than the Company. Smaller companies also may prove to be significant competitors, particularly through collaborative arrangements with large pharmaceutical companies. Furthermore, academic institutions, governmental agencies and other public and private research organizations conduct research, seek patent protection, and establish collaborative arrangements for product development, clinical development and marketing. These companies and institutions also compete with the Company in recruiting and retaining highly qualified personnel. The biotechnology and pharmaceutical industries are subject to rapid and substantial technological change. The Company's competitors may develop and introduce other technologies or approaches to accomplishing the intended purposes of the Company's products which may render the Company's technologies and products noncompetitive and obsolete.

In addition to currently marketed competitive drugs, the Company is aware of potential products in research or development by its competitors that address all of the diseases being targeted by the Company. These and other products may compete directly with the potential products being developed by the Company. In this regard, the Company is aware that potential competitors have received approval for or are developing antibodies or other compounds for treating autoimmune diseases, transplantation, inflammatory conditions, cancers and viral infections. In particular, a number of other companies have developed and will continue to develop human antibodies and humanized antibodies. In addition, protein design is being actively pursued at a number of academic and commercial organizations, and several companies have developed or may develop technologies that can compete with the Company's SMART and human antibody technologies. There can be no assurance that competitors will not succeed in more rapidly developing and marketing technologies and products that are more effective than the products being developed by the Company or that would render the Company's products or technology obsolete or noncompetitive. Further, there can be no assurance that the Company's collaborative partners will not independently develop products competitive with those licensed to such partners by the Company, thereby reducing the likelihood that the Company will receive revenues under its agreements with such partners.

Any potential product that the Company succeeds in developing and for which it gains regulatory approval must then compete for market acceptance and market share. For certain of the Company's potential products, an important factor will be the timing of market introduction of competitive products. Accordingly, the relative speed with which the Company and competing companies can develop products, complete the clinical testing and approval processes, and supply commercial quantities of the products to the market is expected to be an important determinant of market success. For example, Novartis has received approval to market Simulect[R], a product competitive with Zenapax, in the U.S., the European Union and other countries in Europe. In addition to an earlier launch in Europe, Novartis has a significant marketing and sales force directed to the transplantation market and there can be no assurance that Roche will successfully market and sell Zenapax against this and other available products. With respect to the speed of development of Ostavir, the Company is aware that other drugs such as

lamivudine from Glaxo Wellcome plc have received or been submitted for approval in certain jurisdictions for the treatment of CHB. These competitive products are being developed by companies that have significantly greater experience and resources in developing antiviral products than the Company. The success of lamivudine or other drugs for the treatment of CHB could have a material adverse impact on the clinical development and commercial potential of Ostavir.

Other competitive factors include the capabilities of the Company's collaborative partners, product efficacy and safety, timing and scope of regulatory approval, product availability, marketing and sales capabilities, reimbursement coverage, the amount of clinical benefit of the Company's products relative to their cost, method of administration, price and patent protection. There can be no assurance that the Company's competitors will not develop more efficacious or more affordable products, or achieve earlier product development completion, patent protection, regulatory approval or product commercialization than the Company. The occurrence of any of these events by the Company's competitors could have a material adverse effect on the business and financial condition of the Company.

HUMAN RESOURCES

As of December 31, 1998, PDL had 256 full-time employees, of whom 37 hold Ph.D. and/or M.D. degrees. Of the total, 99 employees were engaged in research and development, 47 in quality assurance and compliance, 30 in clinical and regulatory, 32 in manufacturing and 48 in general and administrative functions. PDL's scientific staff members have diversified experience and expertise in molecular and cell biology, biochemistry, virology, immunology, protein chemistry, computational chemistry and computer modeling. PDL's success will depend in large part on its ability to attract and retain skilled and experienced employees. None of PDL's employees are covered by a collective bargaining agreement, and PDL considers its relations with its employees to be good.

ENVIRONMENT

PDL seeks to comply with environmental statutes and the regulations of federal, state and local governmental agencies. PDL has put into place processes and procedures and maintains records in order to monitor its environmental compliance. PDL may invest additional resources, if required, to comply with applicable regulations, and the cost of such compliance may increase significantly.

RISK FACTORS

This Annual Report contains, in addition to historical information, forward-looking statements which involve risks and uncertainties. The Company's actual results may differ significantly from the results discussed in forward-looking statements. Factors that may cause such a difference include those discussed in the material set forth below and elsewhere in this document.

History Of Losses; Future Profitability Uncertain. The Company has a history of operating losses and expects to incur substantial additional expenses over at least the next several years as it continues to develop its potential products, to invest in new research areas and to devote significant resources to preclinical studies, clinical trials and manufacturing. As of December 31, 1998, the Company had an accumulated deficit of approximately $68.9 million. The time and resource commitment required to achieve market success for any individual product is extensive and uncertain. No assurance can be given that the Company, its collaborative partners or licensees will successfully develop products, obtain required regulatory approvals, manufacture products at an acceptable cost and with appropriate quality, or successfully market such products.

The Company's revenues to date have consisted principally of research and development funding, licensing and signing fees and milestone payments from pharmaceutical and biotechnology companies under collaborative research and development, humanization, patent licensing and clinical supply agreements. These revenues may vary considerably from quarter to quarter and from year to year, and revenues in any period may not be predictive of revenues in any subsequent period, and variations may be significant depending on the terms of the particular agreements.

Although the Company anticipates entering into new collaborations from time to time, the Company presently does not anticipate continuing to realize non-royalty revenue from its new and proposed collaborations at levels commensurate with the revenue historically recognized under its older collaborations. Moreover, the Company anticipates that it will continue to incur significant operating expenses as the Company increases its research and development, manufacturing, preclinical, clinical, marketing and administrative and patent activities. Accordingly, in the absence of substantial revenues from new corporate collaborations, humanization agreements or patent licensing agreements, significant royalties on sales of products licensed under the Company's intellectual property rights, or other sources, the Company expects to incur substantial operating losses in the foreseeable future as certain of its earlier stage potential products move into later stage clinical development, as additional potential products are selected as clinical candidates for further development, as the Company invests in additional

facilities or manufacturing capacity, as the Company defends or prosecutes its patents and patent applications and as the Company invests in research or acquires additional technologies, product candidates or businesses. For example, revenues in the third quarter of 1998 included a $6.0 million non-refundable licensing and signing fee from Genentech, Inc. ("Genentech") that resulted in a profit in that quarter. In the absence of similar substantial non-recurring revenues or significant royalty revenues in any future period, there can be no assurance that the Company will be profitable in any future quarters.

Hoffmann-La Roche Inc. and its affiliates ("Roche") have received regulatory approval to distribute Zenapax in the U.S. and certain other countries. Zenapax, a product created by the Company, is licensed exclusively to Roche. The Company has also entered into nonexclusive patent license agreements covering Synagis[TM], a product developed by MedImmune, Inc., and Herceptin[R], a product developed by Genentech. The Company recognizes royalty revenues when royalty reports are received from its collaborative partners, including Roche. With respect to royalties based on revenue from sales of Zenapax by Roche, royalties based on U.S. sales are reported to the Company on a quarterly basis and royalties based on sales outside of the U.S. are reported on a semi-annual basis. With respect to royalties on sales of Synagis and Herceptin, royalty reports are due in the quarter following the quarter in which sales occur or are reported by sublicensees, as the case may be. Each of these licensees has certain rights to partially offset certain payments previously made to the Company or paid to third parties. For example, Roche has a right to partially offset certain third party royalties, patent reimbursement expenses and previously paid milestones against royalties payable to the Company with respect to Zenapax. The Company records revenue when reports are received from its licensees. This method of accounting for royalty revenues from the Company's licensees, taken together with the unpredictable timing of payments of non-recurring licensing and signing fees, payments for manufacturing services and milestones under new and existing collaborative, humanization, patent licensing and clinical supply agreements, is likely to result in significant quarterly fluctuations in revenues in quarterly and annual periods. Thus, revenues in any period may not be predictive of revenues in any subsequent period, and variations may be significant depending on the terms of the particular agreements.

The amount of net losses and the time required to reach sustained profitability are highly uncertain. To achieve sustained profitable operations, the Company, alone or with its collaborative partners, must successfully discover, develop, manufacture, obtain regulatory approvals for and market potential products. No assurances can be given that the Company will be able to achieve or sustain profitability, and results are expected to fluctuate from quarter to quarter and year to year.

Dependence On Licensees With Respect to Marketed Products. The Company is dependent upon the development and marketing efforts of its licensees with respect to products for which the Company may receive royalties. For example, in 1998, the Company began receiving royalties from sales of Zenapax, a product exclusively licensed to Roche. The Company's royalties on Zenapax depend upon the efforts of Roche and there can be no assurance that Roche's development, regulatory and marketing efforts will be successful, including without limitation, whether or how quickly Zenapax might receive regulatory approvals in various countries throughout the world and how rapidly it might be adopted by the medical community. Moreover, Simulect[TM], a product competitive with Zenapax, has been approved for marketing in the U.S. and other countries and there can be no assurance that Roche will successfully market and sell Zenapax against this and other available competitive products. In addition, there can be no assurance that other independently developed products of Roche, including CellCept[R], or others will not compete with or prevent Zenapax from achieving meaningful sales. Roche's development and marketing efforts for CellCept may result in delays or a relatively smaller resource commitment to marketing and sales support efforts than might otherwise be obtained for Zenapax if this potentially competitive product were not under development or being marketed. In addition, Zenapax is being tested in certain early stage clinical trials in autoimmune indications. There can be no assurance that clinical development in autoimmune indications will continue or, that even if the further clinical development is pursued, that Zenapax will be shown to be safe and efficacious, or that the clinical trials will result in approval to market Zenapax in these indications. Any adverse event or announcement related to Zenapax would have a material adverse effect on the business and financial condition of the Company.

The Company has also entered into non-exclusive patent licensing arrangements for certain products recently approved for marketing, specifically Synagis and Herceptin. The Company is dependent upon the further development, regulatory and marketing efforts of its licensees with respect to these products and there can be no assurance that the development, regulatory and marketing efforts of these licensees will be successful, including, without limitation, if and when regulatory approvals in various countries may be obtained and whether or how quickly these products might be adopted by the medical community.

Uncertainty Of Patents And Proprietary Technology; Opposition Proceedings. The Company's success is significantly dependent on its ability to obtain and maintain patent protection for its products and technologies and to preserve its trade secrets and operate without

infringing on the proprietary rights of third parties. The Company files and prosecutes patent applications to protect its inventions. No assurance can be given that the Company's pending patent applications will result in the issuance of patents or that any patents will provide competitive advantages or will not be invalidated or circumvented by its competitors. Moreover, no assurance can be given that patents are not issued to, or patent applications have not been filed by, other companies which would have an adverse effect on the Company's ability to use, import, manufacture, market or sell its products or maintain its competitive position with respect to its products. Other companies obtaining patents claiming products or processes useful to the Company may bring infringement actions against the Company. As a result, the Company may be required to obtain licenses from others or not be able to use, import, manufacture, market or sell its products. Such licenses may not be available on commercially reasonable terms, if at all.

Patents in the U.S. are issued to the party that is first to invent the claimed invention. Since patent applications in the U.S. are maintained in secrecy until patents issue, the Company cannot be certain that it was the first inventor of the inventions covered by its pending patent applications or patents or that it was the first to file patent applications for such inventions. The patent positions of biotechnology firms generally are highly uncertain and involve complex legal and factual questions. No consistent policy has emerged regarding the breadth of claims in biotechnology patents, and patents of biotechnology products are uncertain, so that even issued patents may later be modified or revoked by the U.S. Patent and Trademark Office ("PTO") or the courts. Moreover, the issuance of a patent in one country does not assure the issuance of a patent with similar claims in another country, and claim interpretation and infringement laws vary among countries, so the extent of any patent protection may vary in different countries.

The Company has a number of patents and has exclusively licensed certain patents from third parties. In June 1996, the Company was issued a U.S. patent covering Zenapax and certain related antibodies against the IL-2 receptor. The Company has been issued patents by the PTO, the Japanese Patent Office ("JPO") and European Patent Office ("EPO") that relate to humanized antibodies and the methods of making those antibodies. With respect to its issued antibody humanization patents, the Company believes the patent claims cover Zenapax, Herceptin and Synagis and, based on its review of the scientific literature, most other humanized antibodies. In addition, the Company is currently prosecuting other patent applications with the PTO and in other countries, including members of the European Patent Convention, Canada, Japan and Australia. The patent applications are directed to various aspects of the Company's SMART and human antibodies, antibody technology and other programs, and include claims relating to compositions of matter, methods of preparation and use of a number of the Company's compounds. However, the Company does not know whether any pending applications will result in the issuance of patents or whether such patents will provide protection of commercial significance. Further, there can be no assurance that the Company's patents will prevent others from developing competitive products using related technology.

The Company's humanization patent issued by the EPO applies in the United Kingdom, Germany, France, Italy and eight other European countries. The EPO (but not PTO) procedures provide for a nine-month opposition period in which other parties may submit arguments as to why the patent was incorrectly granted and should be withdrawn or limited. Eighteen notices of opposition to the Company's European patent were filed during the opposition period, including oppositions by major pharmaceutical and biotechnology companies, which cited references and made arguments not considered by the EPO and PTO before grant of the respective patents. The Company has submitted its response to the briefs filed by these parties. The entire opposition process, including appeals, may take several years to complete, and although the EPO patent remains enforceable during this lengthy process, the validity of the EPO patent will be at issue, which may limit the Company's ability to negotiate or collect royalties or to negotiate future collaborative research and development agreements based on this patent. A 6-month opposition period has begun with respect to the Company's humanization patent issued in Japan in late 1998. Similar to the process in Europe, third parties have the opportunity to file their opposition to the issuance of the JPO patent. The Company intends to vigorously defend the European patent and, if necessary, the Japanese patent and U.S. patents; however, there can be no assurance that the Company will prevail in the opposition proceedings or any litigation contesting the validity or scope of these patents. If the outcome of the European or Japanese opposition proceeding or any litigation involving the Company's antibody humanization patents were to be unfavorable, the Company's ability to collect royalties on existing licensed products and to license its patents relating to humanized antibodies may be materially adversely affected, which could have a material adverse affect on the business and financial condition of the Company. In addition, such proceedings or litigation, or any other proceedings or litigation to protect the Company's intellectual property rights or defend against infringement claims by others, could result in substantial costs and diversion of management's time and attention, which could have a material adverse effect on the business and financial condition of the Company.

A number of companies, universities and research institutions have filed patent applications or received patents in the areas of antibodies and other fields relating to the Company's programs. Some of these applications or patents may be competitive with the Company's

applications or contain claims that conflict with those made under the Company's patent applications or patents. Such conflicts could prevent issuance of patents to the Company, provoke an interference with the Company's patents or result in a significant reduction in the scope or invalidation of the Company's patents, if issued. An interference is an administrative proceeding conducted by the PTO to determine the priority of invention and may determine questions of patentability. Moreover, if patents are held by or issued to other parties that contain claims relating to the Company's products or processes, and such claims are ultimately determined to be valid, no assurance can be given that the Company would be able to obtain licenses to these patents at a reasonable cost, if at all, or to develop or obtain alternative technology.

The Company is aware that Celltech Limited ("Celltech") has been granted a patent by the EPO covering certain humanized antibodies ("European Adair Patent"), which the Company has opposed, and that Celltech has also been issued a corresponding U.S. patent (the "U.S. Adair Patent") that contains claims that may be considered broader in scope than the European Adair Patent. The Company is currently reviewing the claims under the U.S. Adair Patent in an effort to determine its future course of action with respect to this patent. If it were determined that the Company's SMART antibodies were covered by the European or U.S. Adair Patents, the Company might be required to obtain a license under such patents or to significantly alter its processes or products, if necessary to make, use or sell its products in Europe and the U.S. There can be no assurance that the Company would be able to successfully alter its processes or products to avoid infringing such patents or to obtain such a license from Celltech on commercially reasonable terms, if at all, and the failure to do so could have a material adverse effect on the business and financial condition of the Company.

In addition, if the claims of the U.S. Adair Patent conflict with claims in the Company's U.S. patents or patent applications, there can be no assurance that an interference would not be declared by the PTO, which could take several years to resolve and could involve significant expense to the Company. Also, such conflict could prevent issuance of additional patents to the Company relating to humanization of antibodies or result in a significant reduction in the scope or invalidation of the Company's patents, if issued. Moreover, uncertainty as to the validity or scope of patents issued to the Company relating generally to humanization of antibodies may limit the Company's ability to negotiate or collect royalties or to negotiate future collaborative research and development agreements based on these patents.

The Company is aware that Lonza Biologics, Inc. has a patent issued in Europe to which the Company does not have a license (although Roche has advised the Company that it has a license covering Zenapax), which may cover a process the Company uses to produce its potential products. If it were determined that the Company's processes were covered by such patent, the Company might be required to obtain a license under such patent or to significantly alter its processes or products, if necessary to manufacture or import its products in Europe. There can be no assurance that the Company would be able to successfully alter its processes or products to avoid infringing such patent or to obtain such a license on commercially reasonable terms, if at all, and the failure to do so could have a material adverse effect on the business and financial condition of the Company.

The Company is also aware that Stanford University has a patent issued in the U.S. to which the Company does not have a license, which may cover a process the Company uses to produce its potential products. The Company has been advised that an exclusive license has been previously granted to a third party under this patent. If it were determined that the Company's processes were covered by such patent, the Company might be required to obtain a license under such patent or to significantly alter its processes or products, if necessary to manufacture or import its products in the U.S. There can be no assurance that the Company would be able to successfully alter its processes or products to avoid infringing such patent or to obtain such a license on commercially reasonable terms, if at all, and the failure to do so could have a material adverse effect on the business and financial condition of the Company. Moreover, any alteration of processes or products to avoid infringing the patent could result in a significant delay in achieving regulatory approval with respect to the products affected by such alterations.

In addition to seeking the protection of patents and licenses, the Company also relies upon trade secrets, know-how and continuing technological innovation which it seeks to protect, in part, by confidentiality agreements with employees, consultants, suppliers and licensees. There can be no assurance that these agreements will not be breached, that the Company would have adequate remedies for any breach or that the Company's trade secrets will not otherwise become known, independently developed or patented by competitors.

Uncertainty Of Clinical Trial Results. Before obtaining regulatory approval for the commercial sale of any of its potential products, the Company must demonstrate through preclinical studies and clinical trials that the product is safe and efficacious for use in the clinical indication for which approval is sought. There can be no assurance that the Company will be permitted to undertake or continue clinical trials for any of its potential products or, if permitted, that such products

will be demonstrated to be safe and efficacious. Moreover, the results from preclinical studies and early-stage clinical trials may not be predictive of results that will be obtained in late-stage clinical trials. Thus, there can be no assurance that the Company's present or future clinical trials will demonstrate the safety and efficacy of any potential products or will result in approval to market products.

In advanced clinical development, numerous factors may be involved that may lead to different results in larger, late-stage clinical trials from those obtained in early-stage trials. For example, early-stage clinical trials usually involve a small number of patients, often at a single center, and thus may not accurately predict the actual results regarding safety and efficacy that may be demonstrated with a large number of patients in a late-stage multi-center clinical trial. Also, differences in the clinical trial design between early-stage and late-stage clinical trials may cause different results regarding the safety and efficacy of a product to be obtained. In addition, many early-stage trials are unblinded and based on qualitative evaluations by clinicians involved in the performance of the trial, whereas late-stage trials are generally required to be blinded in order to provide more objective data for assessing the safety and efficacy of the product. Moreover, preliminary results from clinical trials may not be representative of results that may be obtained as the trial proceeds to completion.

The Company may at times elect to aggressively enter potential products into Phase I/II trials to determine preliminary efficacy in specific indications. In addition, in certain cases the Company has commenced clinical trials without conducting preclinical animal testing where an appropriate animal model does not exist. Similarly, the Company or its partners at times will conduct potentially pivotal Phase II/III or Phase III trials based on limited Phase I or Phase I/II data. As a result of these and other factors, the Company anticipates that only some of its potential products will show safety and efficacy in clinical trials and that the number of products that fail to show safety and efficacy may be significant.

Limited Experience With Clinical Trials; Risk Of Delay. The Company has conducted only a limited number of clinical trials to date. There can be no assurance that the Company will be able to successfully commence and complete all of its planned clinical trials without significant additional resources and expertise. In addition, there can be no assurance that the Company will meet its contemplated development schedule for any of its potential products. The inability of the Company or its collaborative partners to commence or continue clinical trials as currently planned, to complete the clinical trials on a timely basis or to demonstrate the safety and efficacy of its potential products, would have a material adverse effect on the business and financial condition of the Company.

The rate of completion of the Company's or its collaborators' clinical trials is significantly dependent upon, among other factors, the rate of patient enrollment. Patient enrollment is a function of many factors, including, among others, the size of the patient population, perceived risks and benefits of the drug under study, availability of competing therapies, access to reimbursement from insurance companies or government sources, design of the protocol, proximity of and access by patients to clinical sites, patient referral practices, eligibility criteria for the study in question and efforts of the sponsor of and clinical sites involved in the trial to facilitate timely enrollment in the trial. Delays in the planned rate of patient enrollment may result in increased costs and expenses in completion of the trial or may require the Company to undertake additional studies in order to obtain regulatory approval if the applicable standard of care changes in the therapeutic indication under study. These considerations may lead the Company to consider the termination of ongoing clinical trials or halting further development of a product for a particular indication.

Dependence On Collaborative Partners. The Company has collaborative agreements with several pharmaceutical or other companies to develop, manufacture and market certain potential products. The Company granted its collaborative partners certain exclusive rights to commercialize the products covered by these collaborative agreements. In some cases, the Company is relying on its collaborative partners to conduct clinical trials, to compile and analyze the data received from such trials, to obtain regulatory approvals and, if approved, to manufacture and market these licensed products. As a result, the Company often has little or no control over the development and marketing of these potential products and little or no opportunity to review clinical data prior to or following public announcement.

The Company's collaborative research agreements are generally terminable by its partners on short notice. Suspension or termination of certain of the Company's current collaborative research agreements could have a material adverse effect on the Company's operations and could significantly delay the development of the affected products. For example, Boehringer Mannheim GmbH ("Boehringer Mannheim") and the Company from time to time had differences with respect to the clinical development of certain products licensed by the Company to Boehringer Mannheim under a collaborative agreement. In December 1997, as a result of Boehringer Mannheim's internal review of products licensed from the Company, product rights to the Human Anti-Hepatitis B Antibody ("Ostavir") were returned to the Company. In March 1998, Roche acquired Corange Limited ("Corange"), the parent company of Boehringer Mannheim. Roche's review of the products acquired from Boehringer Mannheim

resulted in a decision to return the SMART Anti-L-Selectin Antibody and an antibody directed against an undisclosed cardiovascular target to the Company effective as of December 31, 1998. Although the Company is assessing its development alternatives with respect to these antibodies, the development of these compounds has been delayed significantly and there can be no assurance that the Company will continue or initiate further development efforts with any of these compounds. In addition, Roche acquired 1,682,877 shares of the Company's common stock held by Corange which are no longer subject to contractual limitations on disposition other than certain restrictions on transfers of significant blocks of stock. Further, Boehringer Mannheim has invoked the dispute resolution provisions under its collaborative research agreement to address the reimbursement of up to $2.0 million for the Phase II study of Ostavir for the treatment of chronic hepatitis B ("CHB") conducted by Boehringer Mannheim. The Company is unable to predict the outcome of this proceeding but in any event has estimated and recorded a liability with respect to this matter.

Continued funding and participation by collaborative partners will depend on the timely achievement of research and development objectives by the Company, the retention of key personnel performing work under those agreements and the successful achievement of research or clinical trial goals, none of which can be assured, as well as on each collaborative partner's own financial, competitive, marketing and strategic considerations. Such considerations include, among other things, the commitment of management of the collaborative partners to the continued development of the licensed products, the relationships among the individuals responsible for the implementation and maintenance of the collaborative efforts, the relative advantages of alternative products being marketed or developed by the collaborators or by others, including their relative patent and proprietary technology positions, and their ability to manufacture potential products successfully.

The Company's ability to enter into new collaborations and the willingness of the Company's existing collaborators to continue development of the Company's potential products depends upon, among other things, the Company's patent position with respect to such products. In this regard, the Company has been issued patents by PTO, EPO and JPO with claims that the Company believes, based on its survey of the scientific literature, cover most humanized antibodies. The Company has also been allowed patents with similar claims in other countries and has applied for similar patents in certain other countries. See "Risk Factors -- Uncertainty of Patents and Proprietary Technology; Opposition Proceedings." The EPO and JPO patents are currently in the opposition proceeding stages in those patent offices. In addition, all of the Company's antibody humanization patents may be further challenged through administrative or judicial proceedings. The Company has entered into several collaborations related to both the humanization and patent licensing of certain antibodies whereby it granted licenses to its patent rights relating to such antibodies, and the Company anticipates entering into additional collaborations and patent licensing agreements partially as a result of the Company's patent and patent applications with respect to humanized antibodies. As a result, the inability of the Company to successfully defend the opposition proceedings before the EPO or JPO or, if necessary, to defend patents granted by the PTO, EPO or JPO or to successfully prosecute the corresponding patent applications in other countries could adversely affect the ability of the Company to collect royalties on existing licensed products, and enter into additional collaborations, humanization or patent licensing agreements and could therefore have a material adverse effect on the Company's business or financial condition.

Absence Of Manufacturing Experience. Of the products developed by the Company which are currently in clinical development, Roche is responsible for manufacturing Zenapax and the Company is responsible for manufacturing the Company's Ostavir and the SMART M195 and SMART Anti-CD3 Antibodies as well as its other products in preclinical development. The Company currently leases approximately 47,000 square feet housing its manufacturing facilities in Plymouth, Minnesota. The Company intends to continue to manufacture potential products for use in preclinical and clinical trials using this manufacturing facility in accordance with standard procedures that comply with current Good Manufacturing Practices ("cGMP") and appropriate regulatory standards. The manufacture of sufficient quantities of antibody products in accordance with such standards is an expensive, time-consuming and complex process and is subject to a number of risks that could result in delays. For example, the Company has experienced some difficulties in the past in manufacturing certain potential products on a consistent basis. Production interruptions, if they occur, could significantly delay clinical development of potential products, reduce third party or clinical researcher interest and support of proposed clinical trials, and possibly delay commercialization of such products and impair their competitive position, which would have a material adverse effect on the business and financial condition of the Company.

The Company has no experience in manufacturing commercial quantities of its potential products and currently does not have sufficient capacity to manufacture all of its potential products on a commercial scale. In order to obtain regulatory approvals and to create capacity to produce its products for commercial sale at an acceptable cost, the Company will need to improve and expand its existing manufacturing capabilities, including demonstration to the FDA and corresponding foreign authorities of its ability to manufacture its

products using controlled, reproducible processes. Accordingly, the Company is evaluating plans to improve and expand the capacity of its current manufacturing facility. Such plans, if fully implemented, would result in substantial costs to the Company and may require a suspension of manufacturing operations during construction. There can be no assurance that construction delays would not occur, and any such delays could impair the Company's ability to produce adequate supplies of its potential products for clinical use or commercial sale on a timely basis. Further, there can be no assurance that the Company will successfully improve and expand its manufacturing capability sufficiently to obtain necessary regulatory approvals and to produce adequate commercial supplies of its potential products on a timely basis. Failure to do so could delay commercialization of such products and impair their competitive position, which could have a material adverse effect on the business or financial condition of the Company.

Uncertainties Resulting From Manufacturing Changes. Manufacturing of antibodies for use as therapeutics in compliance with regulatory requirements is complex, time-consuming and expensive. When certain changes are made in the manufacturing process, it is necessary to demonstrate to the FDA and corresponding foreign authorities that the changes have not caused the resulting drug material to differ significantly from the drug material previously produced, if results of prior preclinical studies and clinical trials performed using the previously produced drug material are to be relied upon in regulatory filings. Such changes could include, for example, changing the cell line used to produce the antibody, changing the fermentation or purification process or moving the production process to a new manufacturing plant. Depending upon the type and degree of differences between the newer and older drug material, various studies could be required to demonstrate that the newly produced drug material is sufficiently similar to the previously produced drug material, possibly requiring additional animal studies or human clinical trials. Manufacturing changes have been made or are likely to be made for the production of the Company's products currently in clinical development, in particular Ostavir and the SMART M195 and SMART Anti-CD3 Antibodies. There can be no assurance that such changes will not result in delays in development or regulatory approvals or, if occurring after regulatory approval, in reduction or interruption of commercial sales. In addition, manufacturing changes to its manufacturing facility may require the Company to shut down production for a period of time. There can be no assurance that the Company will be able to reinitiate production in a timely manner, if at all, following such shutdown. Delays as a result of manufacturing changes or shutdown of the manufacturing facility could have an adverse effect on the competitive position of those products and could have a material adverse effect on the business and financial condition of the Company.

Dependence On Suppliers. The Company is dependent on outside vendors for the supply of raw materials used to produce its product candidates. The Company currently qualifies only one or a few vendors for its source of certain raw materials. Therefore, once a supplier's materials have been selected for use in the Company's manufacturing process, the supplier in effect becomes a sole or limited source of such raw materials to the Company due to the extensive regulatory compliance procedures governing changes in manufacturing processes. Although the Company believes it could qualify alternative suppliers, there can be no assurance that the Company would not experience a disruption in manufacturing if it experienced a disruption in supply from any of these sources. Any significant interruption in the supply of any of the raw materials currently obtained from such sources, or the time and expense necessary to transition a replacement supplier's product into the Company's manufacturing process, could disrupt the Company's operations and have a material adverse effect on the business and financial condition of the Company. A problem or suspected problem with the quality of raw materials supplied could result in a suspension of clinical trials, notification of patients treated with products or product candidates produced using such materials, potential product liability claims, a recall of products or product candidates produced using such materials, and an interruption of supplies, any of which could have a material adverse effect on the business or financial condition of the Company.

Competition; Rapid Technological Change. The Company's potential products are intended to address a wide variety of disease conditions, including autoimmune diseases, inflammatory conditions, cancers and viral infections. Competition with respect to these disease conditions is intense and is expected to increase. This competition involves, among other things, successful research and development efforts, obtaining appropriate regulatory approvals, establishing and defending intellectual property rights, successful product manufacturing, marketing, distribution, market and physician acceptance, patient compliance, price and potentially securing eligibility for reimbursement or payment for the use of the Company's products. The Company believes its most significant competitors may be fully integrated pharmaceutical companies with substantial expertise in research and development, manufacturing, testing, obtaining regulatory approvals, marketing and securing eligibility for reimbursement or payment, and substantially greater financial and other resources than the Company. Smaller companies also may prove to be significant competitors, particularly through collaborative arrangements with large pharmaceutical companies. Furthermore, academic institutions, governmental agencies and other public and private research organizations conduct research, seek patent protection, and establish collaborative arrangements for product development, clinical development and marketing. These companies and

institutions also compete with the Company in recruiting and retaining highly qualified personnel. The biotechnology and pharmaceutical industries are subject to rapid and substantial technological change. The Company's competitors may develop and introduce other technologies or approaches to accomplishing the intended purposes of the Company's products which may render the Company's technologies and products noncompetitive and obsolete.

In addition to currently marketed competitive drugs, the Company is aware of potential products in research or development by its competitors that address all of the diseases being targeted by the Company. These and other products may compete directly with the potential products being developed by the Company. In this regard, the Company is aware that potential competitors are developing antibodies or other compounds for treating autoimmune diseases, inflammatory conditions, cancers and viral infections. In particular, a number of other companies have developed and will continue to develop human and humanized antibodies. In addition, protein design is being actively pursued at a number of academic and commercial organizations, and several companies have developed or may develop technologies that can compete with the Company's SMART and human antibody technologies. There can be no assurance that competitors will not succeed in more rapidly developing and marketing technologies and products that are more effective than the products being developed by the Company or that would render the Company's products or technology obsolete or noncompetitive. Further, there can be no assurance that the Company's collaborative partners will not independently develop products competitive with those licensed to such partners by the Company, thereby reducing the likelihood that the Company will receive revenues under its agreements with such partners.

Any potential product that the Company or its collaborative partners succeed in developing and for which regulatory approval is obtained must then compete for market acceptance and market share. For certain of the Company's potential products, an important factor will be the timing of market introduction of competitive products. Accordingly, the relative speed with which the Company and its collaborative partners can develop products, complete the clinical testing and approval processes, and supply commercial quantities of the products to the market compared to competitive companies is expected to be an important determinant of market success. For example, Novartis has received approval to market Simulect, a product competitive with Zenapax, in the U.S. and Europe. In addition to an earlier launch in Europe, Novartis has a significant marketing and sales force directed to the transplantation market and there can be no assurance that Roche will successfully market and sell Zenapax against this and other available products. With respect to the speed of development of Ostavir, the Company is aware that other drugs such as lamivudine from Glaxo Wellcome plc have received or been submitted for approval in certain jurisdictions for the treatment of CHB. These competitive products are being developed by companies that have significantly greater experience and resources in developing antiviral products than the Company. The success of lamivudine or other drugs for the treatment of CHB could have a material adverse impact on the clinical development and commercial potential of Ostavir.

Other competitive factors include the capabilities of the Company's collaborative partners, product efficacy and safety, timing and scope of regulatory approval, product availability, marketing and sales capabilities, reimbursement coverage, the amount of clinical benefit of the Company's products relative to their cost, method of administration, price and patent protection. There can be no assurance that the Company's competitors will not develop more efficacious or more affordable products, or achieve earlier product development completion, patent protection, regulatory approval or product commercialization than the Company. The occurrence of any of these events by the Company's competitors could have a material adverse effect on the business and financial condition of the Company.

Dependence on Key Personnel. The Company's success is dependent to a significant degree on its key management personnel. To be successful, the Company will have to retain its qualified clinical, manufacturing, scientific and management personnel. The Company faces competition for personnel from other companies, academic institutions, government entities and other organizations. There can be no assurance that the Company will be successful in hiring or retaining qualified personnel, and its failure to do so could have a material adverse effect on the business and financial condition of the Company.

Potential Volatility Of Stock Price. The market for the Company's securities is volatile and investment in these securities involves substantial risk. The market prices for securities of biotechnology companies (including the Company) have been highly volatile, and the stock market from time to time has experienced significant price and volume fluctuations that may be unrelated to the operating performance of particular companies. Factors such as disappointing sales of approved products, approval or introduction of competing products, results of clinical trials, delays in manufacturing or clinical trial plans, fluctuations in the Company's operating results, disputes or disagreements with collaborative partners, market reaction to announcements by other biotechnology or pharmaceutical companies, announcements of technological innovations or new commercial therapeutic products by the Company or its competitors, initiation, termination or modification of agreements with collaborative partners, failures or

unexpected delays in manufacturing or in obtaining regulatory approvals or FDA advisory panel recommendations, developments or disputes as to patent or other proprietary rights, loss of key personnel, litigation, public concern as to the safety of drugs developed by the Company, regulatory developments in either the U.S. or foreign countries (such as opinions, recommendations or statements by the FDA or FDA advisory panels, health care reform measures or proposals), market acceptance of products developed and marketed by the Company's collaborators, sales of the Company's common stock held by collaborative partners or insiders and general market conditions could result in the Company's failure to meet the expectations of securities analysts or investors. In such event, or in the event that adverse conditions prevail or are perceived to prevail with respect to the Company's business, the price of the Company's common stock would likely drop significantly. In the past, following significant drops in the price of a company's common stock, securities class action litigation has often been instituted against such a company. Such litigation against the Company could result in substantial costs and a diversion of management's attention and resources, which would have a material adverse effect on the Company's business and financial condition.

No Sales And Marketing Experience. The Company intends to market and sell certain of its products, if successfully developed and approved, either directly or through sales and marketing partnership arrangements with collaborative partners. Although the Company does not expect to establish a direct sales capability for at least the next few years, the Company has no history or experience in sales, marketing or distribution. To market products directly, the Company must either establish a more extensive marketing group and direct sales force or obtain the assistance of another company. There can be no assurance that the Company will be able to establish marketing, sales and distribution capabilities or succeed in gaining market acceptance for its products. If the Company enters into co-promotion or other marketing or patent licensing arrangements with established pharmaceutical companies, the Company's revenues will be subject to the payment provisions of such arrangements and dependent on the efforts of third parties. There can be no assurance that the Company will be able to successfully market products, establish a direct sales force or that its collaborators will effectively market any of the Company's licensed products, and the inability of the Company or its collaborators to do so could have a material adverse effect on the business and financial condition of the Company.

No Assurance Of Regulatory Approval; Government Regulation. The manufacturing, testing and marketing of the Company's products are subject to regulation by numerous governmental authorities in the U.S. and other countries based upon their pricing, safety and efficacy. In the U.S., pharmaceutical products are subject to rigorous FDA regulation. The federal Food, Drug and Cosmetic Act ("FD&C Act"), Public Health Service Act ("PHS Act") and other federal, state and local regulations govern the manufacture, testing, labeling, storage, record keeping, clinical and nonclinical studies to assess safety and efficacy, approval, advertising and promotion of pharmaceutical products. The process of developing and obtaining approval for a new pharmaceutical product within this regulatory framework requires a number of years and the expenditure of substantial resources. There can be no assurance that necessary approvals will be obtained on a timely basis, if at all.

In addition to the requirement for FDA approval of each pharmaceutical product, each pharmaceutical product manufacturing facility must be registered with, and approved by, the FDA. The manufacturing and quality control procedures must conform to cGMP in order to receive FDA approval. Pharmaceutical product manufacturing establishments are subject to inspections by the FDA and local authorities as well as inspections by authorities of other countries. To supply pharmaceutical products for use in the U.S., foreign manufacturing establishments must comply with cGMP and are subject to periodic inspection by the FDA or by corresponding regulatory agencies in such countries under reciprocal agreements with the FDA. Moreover, pharmaceutical product manufacturing facilities may also be regulated by state, local and other authorities.

For marketing of pharmaceutical products outside the U.S., the Company is subject to foreign regulatory requirements governing marketing approval and pricing, and FDA and other U.S. export provisions should the pharmaceutical product be manufactured in the U.S. Requirements relating to the manufacturing, conduct of clinical trials, product licensing, promotion, pricing and reimbursement vary widely in different countries. Difficulties or unanticipated costs or price controls may be encountered by the Company or its licensees or marketing partners in their respective efforts to secure necessary governmental approvals to market the potential pharmaceutical products, which could delay or preclude the Company or its licensees or its marketing partners from marketing their potential pharmaceutical products.

The basic steps required by the FDA before a new pharmaceutical product for human use may be marketed in the U.S. include (i) preclinical laboratory and animal tests, (ii) submission to the FDA of an application for an Investigational New Drug ("IND") which must be reviewed by the FDA before clinical trials may begin, (iii) completion of adequate and well-controlled human clinical trials to establish the safety and efficacy of the pharmaceutical product for its intended use, (iv) for therapeutic monoclonal antibodies, submission of a Biologics License Application ("BLA") to the FDA, and (v) FDA approval of the BLA

prior to any commercial sale or shipment of the pharmaceutical product.

The FDA reviews the results of the trials and may discontinue them at any time for safety reasons or other reasons if they are deemed to be non-compliant with FDA regulations. There can be no assurance that Phase I, II or III clinical trials will be completed successfully within any specific time period, if at all, with respect to any of the Company's or its collaborators' pharmaceutical products, each of which is subject to such testing requirements.

Both before and after approval is obtained, a pharmaceutical product, its manufacturer and the holder of the BLA for the pharmaceutical product are subject to comprehensive regulatory oversight. The FDA may deny a BLA if applicable regulatory criteria are not satisfied, require additional testing or information or require postmarketing testing and surveillance to monitor the safety or efficacy of the pharmaceutical product. Moreover, even if regulatory approval is granted, such approval may be subject to limitations on the indicated uses for which the pharmaceutical product may be marketed. Further, approvals may be withdrawn if compliance with regulatory standards is not maintained or if problems with the pharmaceutical product occur following approval. Among the conditions for BLA approval is the requirement that the manufacturer of the pharmaceutical product comply with cGMP. In addition, under a BLA, the manufacturer continues to be subject to facility inspection and the applicant must assume responsibility for compliance with applicable pharmaceutical product and establishment standards. Violations of regulatory requirements at any stage may result in various adverse consequences, including FDA refusal to accept a license application, total or partial suspension of licensure, delay in approving or refusal to approve the pharmaceutical product or pending marketing approval applications, warning letters, fines, injunctions, withdrawal of the previously approved pharmaceutical product or marketing approvals and/or the imposition of criminal penalties against the manufacturer and/or BLA holders. In addition, later discovery of previously unknown problems may result in new restrictions on such pharmaceutical product, manufacturer and/or BLA holders, including withdrawal of the pharmaceutical product or marketing approvals and pharmaceutical product recalls or seizures.

Product Liability And Insurance. The Company faces an inherent business risk of exposure to product liability claims in the event that the use of products during research and development efforts or after commercialization results in adverse effects. There can be no assurance that the Company will avoid significant product liability exposure. The Company maintains product liability insurance for clinical trials. However, there can be no assurance that such coverage will be adequate or that adequate insurance coverage for future clinical trials or commercial activities will be available at an acceptable cost, if at all, or that a product liability claim would not materially adversely affect the business or financial condition of the Company.

Future Requirements For Significant Additional Capital. The Company's operations to date have consumed substantial amounts of cash. Negative cash flow from operations is expected to increase beyond current levels over at least the next year as the Company expects to spend substantial funds in conducting clinical trials, to expand its marketing capabilities and efforts, to expand existing research and development programs, to develop and expand its development and manufacturing capabilities and to defend or prosecute its patents and patent applications. The Company's future capital requirements will depend on numerous factors, including, among others, royalties from the sales of licensed products by licensees under the Company's patents; the progress of the Company's product candidates in clinical trials; the continued or additional support by collaborative partners or other third parties of research and clinical trials; enhancement of research and development programs; the time required to gain regulatory approvals; the resources the Company devotes to self-funded products, manufacturing methods and advanced technologies; the ability of the Company to obtain and retain funding from third parties under collaborative agreements; the ability of the Company and its collaborators to achieve development milestones; the development of internal marketing and sales capabilities; the demand for the Company's potential products, if and when approved; potential acquisitions of technology, product candidates or businesses by the Company; and the costs of defending or prosecuting any patent opposition or litigation necessary to protect the Company's proprietary technology. In order to develop and commercialize its potential products, the Company may need to raise substantial additional funds through equity or debt financings, collaborative arrangements, the use of sponsored research efforts or other means. No assurance can be given that such additional financing will be available on acceptable terms, if at all, and such financing may only be available on terms dilutive to existing stockholders. The inability of the Company to secure adequate funds on a timely basis could result in the delay or cancellation of programs that the Company might otherwise pursue and, in any event, could have a material adverse effect on the business and financial condition of the Company.

Environmental Regulation. The Company is subject to federal, state and local laws and regulations governing the use, generation, manufacture, storage, discharge, handling and disposal of certain materials and wastes used in its operations, some of which are classified as "hazardous." There can be no assurance that the Company will not be required to incur significant costs to comply with environmental laws, the Occupational Safety and Health Act, and state,

local and foreign counterparts to such laws, rules and regulations as its manufacturing and research activities are increased or that the operations, business and future profitability of the Company will not be adversely affected by current or future laws, rules and regulations. The risk of accidental contamination or injury from hazardous materials cannot be eliminated. In the event of such an accident, the Company could be held liable for any damages that result and any such liability could exceed the resources of the Company. In any event, the cost of defending claims arising from such contamination or injury could be substantial. In addition, the Company cannot predict the extent of the adverse effect on its business or the financial and other costs that might result from any new government requirements arising out of future legislative, administrative or judicial actions.

Uncertainty Related To Health Care Industry. The health care industry is subject to changing political, economic and regulatory influences that may significantly affect the purchasing practices and pricing of human therapeutics. Cost containment measures, whether instituted by health care providers or enacted as a result of government health administration regulators or new regulations, such as pricing limitations or formulary eligibility for dispensation by medical providers, could result in greater selectivity in the availability of treatments. Such selectivity could have an adverse effect on the Company's ability to sell its products and there can be no assurance that adequate third-party coverage will be available for the Company to maintain price levels sufficient to generate an appropriate return on its investment in product development. Third-party payors are increasingly focusing on the cost-benefit profile of alternative therapies and prescription drugs and challenging the prices charged for such products and services. Also, the trend towards managed health care in the U.S. and the concurrent growth of organizations such as health maintenance organizations, which could control or significantly influence the purchase of health care services and products, as well as legislative proposals to reform health care or reduce government insurance programs, may all result in lower prices or reduced markets for the Company's products. The cost containment measures that health care providers and payors are instituting and the effect of any health care reform could adversely affect the Company's ability to sell its products and may have a material adverse effect on the Company. To date, the Company has conducted limited marketing studies on certain of its potential products and has not undertaken any pharmacoeconomic analysis with respect to its products under development. The cost containment measures and reforms that government institutions and third party payors are considering instituting could result in significant and unpredictable changes to the marketing, pricing and reimbursement practices of biopharmaceutical companies such as the Company. The adoption of any such measures or reforms could have a material adverse effect on the business and financial condition of the Company.

Conduct of Certain Activities in California. The Company maintains its headquarters and research and development facilities in northern California. California has historically been the site of various natural disasters, including earthquakes, seismic tremors, unstable geologic fault lines, floods and mudslides. The occurrence of a natural disaster of significant magnitude in northern California could seriously impair the operations of the Company for an extended period of time as well as result in the loss of data and information essential to the continuation of the Company's business. Although the Company maintains duplicate copies of certain of its data and information on its information systems at its Minnesota facility, there can be no assurance that such natural disaster would not significantly disrupt the operations of the Company. Moreover, there can be no assurance that the Company's employees or other suitable personnel would be available to resume the operations of the Company in California in a timely manner, and the cost of resuming its operations and responding to such disaster could have a material adverse effect on the business and financial condition of the Company.

ITEM 2. PROPERTIES

The Company leases approximately 92,000 square feet of research and development and general office space in Fremont, California. The Company relocated its California headquarters and research and development facilities to this space beginning in September 1998. The term of the Company's lease with respect to this space is approximately 12 years, with two additional five year options subject to certain conditions. The Company also leases an additional 43,000 square feet of laboratory and office space at the site of its former headquarters and research and development facilities in Mountain View, California. In 1998, the Company entered into subleases with two parties for all of the available space. The subleases are scheduled to terminate on December 31, 2000, the termination date of the Company's lease with respect to this space.

The Company also leases approximately 47,000 square feet of manufacturing, laboratory and office space in Plymouth, Minnesota. The Company's lease will terminate on February 29, 2004, subject to the Company's options to extend the lease for two additional five year terms. Although these facilities currently leased by the Company are sufficient for its present manufacturing operations, the Company believes that it may have to obtain additional manufacturing space in the future and may lease or acquire additional space as required.

The Company owns substantially all of the equipment used in its

facilities. See Note 4 to the financial statements.

ITEM 3. LEGAL PROCEEDINGS

The Company is involved in administrative opposition proceedings being conducted by the European Patent Office with respect to its European patent relating to humanized antibodies. Eighteen oppositions were filed with respect to the issuance of the patent to the Company in January 1996. The opposition briefs argue that the patent was incorrectly granted and should be withdrawn or limited. See "Business - - - Patents and Proprietary Technology" and "Risk Factors -- Uncertainty of Patents and Proprietary Technology; Opposition Proceedings." The Company has submitted its response to the briefs filed by these parties. The Company has recently entered into a similar opposition period with respect to the Company's recently issued Japanese patent relating to humanized antibodies. The time to file oppositions in this proceeding has not yet expired but the Company expects briefs to be filed in opposition to the issuance of this patent.

Other than such administrative proceedings, the Company is not a party to any material administrative proceedings. The Company believes that the outcome of these opposition proceedings will not have a material adverse effect on the financial position, results of operations or the cash flows of the Company. However, if such outcomes were to be unfavorable, the Company's ability to collect royalties on licensed products and to license its patents relating to humanized antibodies may be materially adversely affected which could in the future have a material adverse effect on the Company's results of operations, cash flows and financial position.

In 1997, Boehringer Mannheim invoked the dispute resolution provisions under its collaborative research agreement with the Company to address the reimbursement of up to $2.0 million for the terminated Phase II study of Ostavir for the treatment of chronic active hepatitis B initiated by Boehringer Mannheim as well as certain legal expenses related to Boehringer Mannheim's participation in the Company's public offering in early 1997. The collaborative research agreement with Boehringer Mannheim provides for reimbursement from PDL of costs and expenses of up to $2.0 million for a Phase II study of Ostavir in the event certain conditions are met with respect to that study. In March 1998, Roche acquired Boehringer Mannheim. The Company is unable to predict the outcome of this proceeding but in any event has estimated and recorded a liability with respect to this matter. See "Risk Factors." Other than such legal proceeding, the Company is not a party to any material legal proceedings.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITYHOLDERS

Not applicable.

PART II

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

MARKET INFORMATION AND DIVIDEND POLICY ($)

1997	High	Low
First Quarter	40.13	31.75
Second Quarter	35.88	24.38
Third Quarter	43.50	26.50
Fourth Quarter	51.50	35.88

1998	High	Low
First Quarter	47.13	33.75
Second Quarter	40.38	20.13
Third Quarter	26.50	16.00
Fourth Quarter	28.44	16.13

The Company's Common Stock trades on the Nasdaq National Market under the symbol "PDLI." Prices indicated above are the high and low sales prices as reported by the Nasdaq National Market System for the periods indicated. The Company has never paid any cash dividends on its capital stock and does not anticipate paying any cash dividends in the foreseeable future.

As of December 31, 1998, the approximate number of common stockholders of record was 190. The Company believes that it has in excess of 300 stockholders as many of the holders are "street name" (nominee) accounts. The market for the Company's securities is volatile. See "Risk Factors."

ITEM 6. SELECTED FINANCIAL DATA

(In thousands, except per share and number of employees data)

	Years Ended December 31,				
	1998	1997	1996	1995	1994

STATEMENTS OF OPERATIONS DATA:					
Revenues:					
Research and development revenue under collaborative agreements-related parties (1)	$ --	$ --	$11,000	$10,333	$9,333
Research and development revenue-other (1)	21,325	11,137	5,500	1,075	2,527
Interest and other income	9,503	9,118	6,100	6,205	3,349
Total revenues	30,828	20,255	22,600	17,613	15,209
Costs and expenses:					
Research and development	31,645	25,614	28,795	20,803	16,367
General and administrative	8,685	6,629	5,601	5,163	4,051
Special charge (2)	--	11,887	--	--	--
Interest expense	--	--	--	1	7
Total costs and expenses	40,330	44,130	34,396	25,967	20,425
Net loss	($9,502)	($23,875)	($11,796)	($8,354)	($5,216)
Net loss per share (3)	($0.51)	($1.35)	($0.76)	($0.54)	($0.37)
Shares used in computation of net loss per share	18,525	17,649	15,604	15,343	14,060

	December 31,				
	1998	1997	1996	1995	1994
BALANCE SHEET DATA:					
Cash, cash equivalents and investments	$143,439	$163,655	$99,667	$107,065	$113,245
Working capital	82,394	66,490	74,221	43,522	95,450
Total assets	171,850	175,026	110,331	116,412	121,054
Accumulated deficit	(68,884)	(59,382)	(35,507)	(23,711)	(15,357)
Total stockholders' equity	162,496	168,468	105,112	112,856	117,783
Number of employees	256	217	208	181	145

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(1) Certain amounts in the category "Research and development revenue under collaborative agreements-related parties" for the years ended December 31, 1994-96 have been reclassified under the category "Research and development revenue-other" based on a determination that one of the Company's collaborative partners was not a related party during these periods. The total research and development revenue for these periods is unchanged.

(2) Represents a non-cash special charge of approximately $11.9 million related to the extension of the term of all outstanding stock options held by employees, officers, directors and consultants to the Company that were granted prior to February 1995, with the single exception of stock options granted to one non-employee director. The extension conforms the term of previously granted stock options, which was six years, to those granted since February 1995, ten years.

(3) For a description of the computation of net loss per share, see Note 1 to the Financial Statements.

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

This Annual Report contains forward-looking statements which involve risks and uncertainties. The Company's actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such a difference include, but are not limited to those discussed in "Risk Factors" as well as those discussed elsewhere in this document.

OVERVIEW

Since the Company's founding in 1986, a primary focus of its operations has been research and development. Achievement of successful research and development and commercialization of products derived from such efforts is subject to high levels of risk and significant resource commitments. The Company has a history of operating losses and expects to incur substantial additional expenses over at least the next few years as it continues to develop its proprietary products, devote significant resources to preclinical studies, clinical trials, and manufacturing and to defend its patents and other proprietary rights. The Company's revenues to date have consisted principally of research and development funding, licensing and signing fees and milestone payments from pharmaceutical and biotechnology companies under collaborative research and development, humanization, patent licensing and clinical supply agreements. These revenues may vary considerably

from quarter to quarter and from year to year, and revenues in any period may not be predictive of revenues in any subsequent period, and variations may be significant depending on the terms of the particular agreements.

In 1998, the Company began receiving royalties from sales of Zenapax[R]. Royalties on sales of Zenapax are payable under exclusive license agreements with Hoffmann-La Roche Inc. and affiliates ("Roche"). The Company has also entered into non-exclusive licenses under the Company's antibody humanization patents for other humanized antibody products recently approved for marketing. Royalty revenues from third party sales of licensed humanized antibodies are subject to the specific terms of each agreement and, under the Company's policy, are recognized by the Company during the quarter such royalties are reported to PDL. This method of revenue recognition may increase fluctuations reported in any particular quarter since the agreements generally provide for royalty reports to the Company following completion of each calendar quarter or semi-annual period. Further, royalty revenues are unpredictable as they are dependent upon numerous factors including the seasonality of sales of licensed products, the existence of competing products and the marketing efforts of the Company's licensees. In addition, certain licensees have rights to partially offset certain previously paid milestones and third party royalties against royalties payable to the Company.

Although the Company anticipates entering into new collaborations from time to time, the Company presently does not anticipate continuing to realize non-royalty revenue from its new and proposed collaborations at levels commensurate with the revenue historically recognized under its older collaborations. Moreover, the Company anticipates that it will incur significant operating expenses as the Company increases its research and development, manufacturing, preclinical, clinical, marketing and administrative and patent activities. Accordingly, in the absence of substantial revenues from new corporate collaborations or patent licensing or humanization agreements, significant royalties on sales of products licensed under the Company's intellectual property rights, or other sources, the Company expects to incur substantial operating losses in the foreseeable future as certain of its earlier stage potential products move into later stage clinical development, as additional potential products are selected as clinical candidates for further development, as the Company invests in additional facilities or manufacturing capacity, as the Company defends or prosecutes its patents and patent applications and as the Company invests in research or acquires additional technologies, product candidates or businesses.

Contract revenues from research and development are recorded as earned based on the performance requirements of the contracts. Revenues from achievement of milestone events are recognized when the funding party agrees that the scientific or clinical results stipulated in the agreement have been met. Deferred revenue arises principally due to timing of cash payments received under research and development contracts.

RESULTS OF OPERATIONS

Years ended December 31, 1998, 1997 and 1996

The Company's total revenues were $30.8 million in 1998 as compared to $20.3 million in 1997 and $22.6 million in 1996. Total research and development revenues represented $21.3 million, $11.1 million and $16.5 million of total revenues in 1998, 1997 and 1996, respectively. Interest and other income were $9.5 million in 1998, $9.1 million in 1997, and $6.1 million in 1996.

The increase in total research and development revenues in 1998 from the prior years was primarily attributable to increased licensing and signing fees, milestone payments, royalties and manufacturing services revenues under clinical supply agreements during the period. The Company recognized $21.3 million in licensing and signing fees, milestone payments, manufacturing services revenues under clinical supply agreements, research and development reimbursement funding and royalties in 1998 compared to $11.0 million and $16.5 million in 1997 and 1996, respectively. Of the amounts expended by the Company for research and development, $1.8 million in 1998, $0.1 million in 1997 and $10.0 million in 1996 represented third-party funded research and development activities (not including licensing and signing fees, milestone payments and product sales).

Interest and other income increased to $9.5 million in 1998 from $9.1 and $6.1 million in 1997 and 1996, respectively. This increase in 1998 and 1997 is primarily attributable to the increased interest earned on the Company's investment balances as a result of the Company's follow-on public offering, which was completed during the first quarter of 1997.

Total costs and expenses decreased to $40.3 million in 1998 from $44.1 million in 1997 and $34.4 million in 1996. In 1997, the Company incurred a non-cash special charge of $11.9 million associated with the extension of the term of certain stock options that were granted prior to 1995. The special charge is expected to be non-recurring and conformed the term of previously granted stock options, which was six years, to those granted since February 1995, ten years. Exercise prices of the stock options were not altered. Without the non-cash special charge in 1997, total costs and expenses in 1998 increased to $40.3

million as compared to $32.2 million, due principally to an increase in research and development and general and administrative expenses.

Research and development expenses in 1998 increased to $31.6 million from $25.6 million in 1997 and $28.8 million in 1996. The increase in 1998 costs and expenses as compared to 1997 was primarily a result of the addition of staff, increased expenses due to the relocation and expansion of the Company's headquarters and research and development facilities in Fremont, California, the initiation and continuation of clinical trials, costs of conducting preclinical tests and expansion of pharmaceutical development capabilities including support for both clinical development and manufacturing process development.

General and administrative expenses for 1998 increased to $8.7 million from $6.6 million in 1997 and $5.6 million in 1996. These increases were primarily the result of increased staffing and associated expenses necessary to manage and support the Company's expanding operations.

LIQUIDITY AND CAPITAL RESOURCES

To date the Company has financed its operations primarily through public and private placements of equity securities, research and development revenues and interest income on invested capital. At December 31, 1998, the Company had cash, cash equivalents and investments in the aggregate of $143.4 million, compared to $163.7 million at December 31, 1997 and $99.7 million at December 31, 1996. This decrease in cash resources in 1998 primarily reflects the Company's investment of approximately $12.2 million in its new Fremont, California headquarters and research and development facility for construction of these new facilities and related improvements, including expanded laboratory and development facilities.

In 1997, Boehringer Mannheim GmbH ("Boehringer Mannheim") invoked the dispute resolution provisions under its collaborative research agreement with the Company to address the reimbursement of up to $2.0 million for the Phase II study of Ostavir for the treatment of chronic hepatitis B ("CHB") then being conducted by Boehringer Mannheim as well as certain legal expenses related to Boehringer Mannheim's participation in the Company's public offering in the first quarter of 1997. In March 1998, Roche acquired Boehringer Mannheim. The Company is unable to predict the outcome of this proceeding but in any event has estimated and recorded a liability with respect to this matter. The collaborative research agreement with Boehringer Mannheim provides for reimbursement from PDL of costs and expenses of up to $2.0 million for a Phase II study of Ostavir in the event certain conditions are met with respect to that study.

As set forth in the Statements of Cash Flows, net cash used in operating activities was approximately $6.5 million for the year ended December 31, 1998 compared to approximately $7.6 million in 1997 and $7.0 million in 1996. The decrease in 1998 was primarily due to the Company's increased revenues and lower net loss during the period.

As set forth in the Statements of Cash Flows, net cash provided by investing activities for the year ended December 31, 1998 was $21.2 million compared to net cash used in investing activities of $72.1 million in 1997 and provided by investing activities of $11.8 million in 1996. The change in 1998 was primarily the result of reinvestment activities associated with the purchases of short- and long-term investments.

As set forth in the Statements of Cash Flows, net cash provided by financing activities for the year ended December 31, 1998 was $3.9 million compared to $74.9 million in 1997 and $4.7 million in 1996. The change in 1998 was primarily the result of the 1997 completion of a public offering by the Company and the exercise of outstanding stock options. The change in 1997 was primarily the result of the completion of a public offering of 2.275 million shares of the Company's common stock in the first quarter of 1997.

The Company's future capital requirements will depend on numerous factors, including, among others, royalties from the marketing and sales efforts of third party licensees under the Company's patents; the ability of the Company to enter into additional collaborative, patent licensing or humanization arrangements; the progress of the Company's product candidates in clinical trials; the ability of the Company's collaborative partners to obtain regulatory approval and successfully manufacture and market products; the continued or additional support by collaborative partners or other third parties of research and clinical trials; enhancement of existing and investment in new research and development programs; the time required to gain regulatory approvals; the resources the Company devotes to self-funded products, manufacturing methods and advanced technologies; the ability of the Company to achieve milestones and obtain and retain funding from third parties under collaborative agreements; the development of internal marketing and sales capabilities; the demand for the Company's potential products, if and when approved; potential acquisitions of technology, product candidates or businesses by the Company; and the costs of defending or prosecuting any patent opposition or litigation necessary to protect the Company's proprietary technology. In order to develop and commercialize its potential products the Company may need to raise substantial additional funds through equity or debt financings, collaborative

arrangements, the use of sponsored research efforts or other means. No assurance can be given that such additional financing will be available on acceptable terms, if at all, and such financing may only be available on terms dilutive to existing stockholders. The Company believes that existing capital resources will be adequate to satisfy its capital needs through at least 2000.

YEAR 2000 COMPLIANCE

As is true for most companies, the ability of the Company's systems and equipment as well as those of its key suppliers to address the Year 2000 ("Y2K") issue presents a potential risk for the Company. If systems software and/or equipment containing embedded software or controllers do not correctly recognize date information when the year changes to 2000, there could be an adverse impact on the Company's operations. The risk for the Company exists in two areas: systems used by the Company to run its business and systems used by the Company's suppliers. The Company is currently evaluating its exposure in these two areas. The Company has also reviewed, but views as a much less significant risk, claims related to potential warranty or other claims from its collaborative research customers.

Based on a preliminary assessment by an outside consultant retained by the Company in early 1998, the Company believes that its most important information systems are Y2K-compliant; however, the Company is in the process of conducting a comprehensive inventory and evaluation of its systems, equipment and facilities. In connection with its recent move to a new headquarters and research and development facility in Fremont, California, the Company has replaced or upgraded many of its systems and equipment that were known or believed to present potential Y2K problems. In addition, the Company specifically identified and contacted certain key vendors regarding Y2K compliance of its key information systems and has either received software upgrades or assurances that Y2K-compliant software will be made available in a manner designed for the Company to timely address the Y2K issue with respect to these systems.

The Company has retained this consultant to develop and implement a Y2K program, which retention includes the development of a more extensive inventory and assessment program for the Company with respect to Y2K risks. The consultant has expertise in assessing other organizations with similar vendors and computer systems. This program will include a comprehensive review of all major systems and equipment of the Company and will also include a contingency plan for any mission critical systems that may be identified as potential Y2K problems.

The Company has established a Y2K committee with responsibility for coordinating awareness and identifying potential Y2K risk areas within the Company. As part of its comprehensive review of potentially affected systems, equipment and facilities, the Company is also reviewing controllers used to perform key functions in its manufacturing facility in Plymouth, Minnesota. At this time, the Company has not reviewed all systems and processes for potential Y2K problems nor has the Company identified alternative remediation plans if upgrade or replacement is not feasible. The Company will consider the need for such remediation or replacement plans as it continues to assess the Y2K risk. For Y2K non-compliance issues identified to date, the cost of upgrade or remediation has not been and is not expected to be material to the Company's operating results. The Company has completed a work and project plan for company awareness and is implementing a detailed assessment and inventory review process corresponding to the five-step General Accounting Office recommended process guidelines. For Y2K compliance, the total out-of-pocket costs expended to date and currently planned budget expenditures are less than $100,000. If implementation of replacement systems is delayed, or if significant new non-compliance issues are identified, the Company's results of operations or financial condition could be materially adversely affected.

The Company has identified and inquired of most of its critical suppliers and has plans to initiate further inquiries of other suppliers in order to determine whether the operations and the products or services provided by these identified vendors are Y2K-compliant. Where practicable, the Company will attempt to mitigate its risks with respect to the failure of vendors to be Y2K-compliant. In the event that vendors are not compliant, the Company may adjust its purchasing decisions or seek alternative sources of supplies or services. However, many of the Company's vendors have been qualified for regulatory purposes such that qualifying new vendors could involve significant time and resource commitments by the Company. Failure of vendors to be Y2K-compliant remains a possibility and could limit the ability of the Company to manufacture material for clinical studies or timely conduct regulatory compliance programs that would result in a delay in the initiation or continuation of certain planned clinical studies. Significant delays or expenditures due to vendors' failures to become Y2K-compliant could have an adverse impact on the Company's results of operations or financial condition.

With respect to research conducted by the Company in support of its collaborative research customers, many of the systems and software used to support such efforts are new. Where appropriate, the Company has, as a condition to accepting such systems and software, required that the systems be Y2K-compliant.

ITEM 7a. MARKET RISKS

The following discussion about the Company's market risk includes "forward-looking statements" that involve risks and uncertainties. Actual results could differ materially from those projected in the forward-looking statements. The Company does not use derivative financial instruments for speculative or trading purposes.

The Company maintains a non-trading investment portfolio of investment grade, highly liquid, debt securities which limits the amount of credit exposure to any one issue, issuer, or type of instrument. The securities in the Company's investment portfolio are not leveraged and are classified as available for sale and therefore are subject to interest rate risk. The Company does not currently hedge interest rate exposure. The modeling technique used measures the change in fair values arising from an immediate hypothetical shift in market interest rates and assumes ending fair values include principal plus accrued interest. If market interest rates were to increase by 100 basis points from December 31, 1998 levels, the fair value of the portfolio would decline by approximately $0.8 million.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

PROTEIN DESIGN LABS, INC.
BALANCE SHEETS
(In thousands, except par value per share)

	December 31,	
	1998	1997
ASSETS		
Current assets:		
Cash and cash equivalents	$27,907	$9,266
Short-term investments	59,233	63,003
Other current assets	4,608	779
Total current assets	91,748	73,048
Property and equipment, net	23,016	9,996
Long-term investments	56,299	91,386
Other assets	787	596
	$171,850	$175,026
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$1,310	$475
Accrued compensation	925	833
Other accrued liabilities	4,884	3,646
Deferred revenue	2235	1604
Total current liabilities	9,354	6,558
Commitments		
Stockholders' equity:		
Preferred stock, par value $0.01 per share, 10,000 shares authorized; no shares issued and outstanding	--	--
Common stock, par value $0.01 per share, 40,000 shares authorized; 18,595 and 18,348 issued and outstanding at December 31, 1998 and December 31, 1997, respectively	186	183
Additional paid-in capital	231,035	227,093
Accumulated deficit	(68,884)	(59,382)
Accumulated other comprehensive income	159	574
Total stockholders' equity	162,496	168,468
	$171,850	$175,026

See accompanying notes

PROTEIN DESIGN LABS, INC.
STATEMENTS OF OPERATIONS
(In thousands, except net loss per share data)

	Years Ended December 31,		
	1998	1997	1996
Revenues:			
Research and development revenue under collaborative agreements-related parties	$ --	$ --	$11,000
Research and development revenue-other	21,325	11,137	5,500

Interest and other income	9,503	9,118	6,100
Total revenues	30,828	20,255	22,600
Costs and expenses:			
Research and development	31,645	25,614	28,795
General and administrative	8,685	6,629	5,601
Special charge	--	11,887	--
Total costs and expenses	40,330	44,130	34,396
Net loss	($9,502)	($23,875)	($11,796)
Net loss per share	($0.51)	($1.35)	($0.76)
Shares used in computation of net loss per share	18,525	17,649	15,604

See accompanying notes

PROTEIN DESIGN LABS, INC.

STATEMENTS OF STOCKHOLDERS' EQUITY

(In thousands, except per share and shares of common stock data)

	Common Stock		Additional Paid-in		Accumulated Other		Total
	Shares	Amount	Capital	Accumulated Deficit	Comprehensive Income	Comprehensive Income	Stockholders' Equity
Balance at December 31, 1995	15,405,761	$154	$135,616	($23,711)	$796		$112,855
Issuance of common stock to employees, consultants and outside directors for cash	353,328	4	4,712				4,716
Comprehensive Income							
Net loss				(11,796)		($11,796)	(11,796)
Other comprehensive income							
Unrealized loss on securities					(663)	(663)	(663)
Comprehensive income						(12,459)	
Balance at December 31, 1996	15,759,089	158	140,328	(35,507)	133		105,112
Follow-on public offering of common stock at $32.00 per share (net underwriters discount of $4,004 and offering expenses of $665)	2,275,000	22	68,109				68,131
Issuance of common stock to investor at $44.875 per share	44,568		2,000				2,000
Issuance of common stock to employees, consultants and outside directors for cash	269,320	3	4,769				4,772
Extension of term of certain stock options			11,887				11,887
Comprehensive Income							
Net loss				(23,875)		(23,875)	(23,875)
Other comprehensive income							
Unrealized gain on securities					441	441	441
Comprehensive income						(23,434)	
Balance at December 31, 1997	18,347,977	183	227,093	(59,382)	574		168,468
Issuance of common stock to employees, consultants and outside directors for cash	247,272	3	3,942				3,945
Comprehensive Income							
Net loss				(9,502)		(9,502)	(9,502)
Other comprehensive income							
Unrealized loss on securities					(415)	(415)	(415)
Comprehensive income						($9,917)	
Balance at December 31, 1998	18,595,249	$186	$231,035	($68,884)	$159		$162,496

See accompanying notes

PROTEIN DESIGN LABS, INC.
STATEMENTS OF CASH FLOWS
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS
(In thousands)

	Years Ended December 31,		
	1998	1997	1996
Cash flows from operating activities:			
Net loss	($9,502)	($23,875)	($11,796)
Adjustments to reconcile net loss to net cash used in operating activities			
Depreciation and amortization	3,690	3,244	3,242
Other	303	(706)	466
Special charge	--	11,887	--
Changes in assets and liabilities:			
Other current assets	(3,829)	470	(601)
Accounts payable	835	(554)	392
Accrued liabilities	1,330	289	2,272
Deferred revenue	631	1,604	(1,000)
Total adjustments	2,960	16,234	4,771
Net cash used in operating activities	(6,542)	(7,641)	(7,025)
Cash flows from investing activities:			
Purchases of short and long term investments	(166,120)	(317,482)	(24,458)
Maturities of short and long term investments	204,300	249,681	39,900
Capital expenditures	(16,751)	(4,565)	(3,699)
(Increase) decrease in other assets	(191)	229	22
Net cash provided by (used in) investing activities	21,238	(72,137)	11,765
Cash flows from financing activities:			
Proceeds from issuance of capital stock	3,945	74,903	4,715
Net cash provided by financing activities	3,945	74,903	4,715
Net increase (decrease) in cash and cash equivalents	18,641	(4,875)	9,455
Cash and cash equivalents at beginning of year	9,266	14,141	4,686
Cash and cash equivalents at end of year	$27,907	$9,266	$14,141

See accompanying notes

PROTEIN DESIGN LABS, INC.
NOTES TO FINANCIAL STATEMENTS
December 31, 1998

1. Summary of Significant Accounting Policies

Organization and Business

Since the Company's founding in 1986, a primary focus of its operations has been research and development. Achievement of successful research and development and commercialization of products derived from such efforts is subject to high levels of risk and significant resource commitments. The Company has a history of operating losses and expects to incur substantial additional expenses over at least the next few years as it continues to develop its proprietary products, devote significant resources to preclinical studies, clinical trials, and manufacturing and to defend its patents and other proprietary rights. The Company's revenues to date have consisted principally of research and development funding, licensing and signing fees and milestone payments from pharmaceutical and biotechnology companies under collaborative research and development, humanization, patent licensing and clinical supply agreements. These revenues may vary considerably from quarter to quarter and from year to year, and revenues in any period may not be predictive of revenues in any subsequent period, and variations may be significant depending on the terms of the particular agreements.

In 1998, the Company began receiving royalties from sales of Zenapax[R]. Royalties on sales of Zenapax are payable under exclusive license agreements with Hoffmann-La Roche Inc. and affiliates ("Roche"). The Company has also entered into non-exclusive licenses under the Company's antibody humanization patents for other humanized antibody products recently approved for marketing. Royalty revenues from third party sales of licensed humanized antibodies are subject to the specific terms of each agreement and, under the Company's policy are recognized by the Company during the quarter such royalties are reported to PDL. This method of revenue recognition may increase fluctuations reported in any particular quarter since the agreements generally provide for royalty reports to the Company following completion of each calendar quarter or semi-annual period. Further, royalty revenues are unpredictable as they are dependent upon numerous factors including the seasonality of sales of licensed products, the existence of competing products and the marketing efforts of the Company's licensees. In addition, certain licensees have rights to partially offset certain previously paid milestones and third party royalties against royalties payable to the Company.

Although the Company anticipates entering into new collaborations from time to time, the Company presently does not anticipate continuing to realize non-royalty revenue from its new and proposed collaborations at levels commensurate with the revenue historically recognized under its older collaborations. Moreover, the Company anticipates that it will incur significant operating expenses as the Company increases its research and development, manufacturing, preclinical, clinical, marketing and administrative and patent activities. Accordingly, in the absence of substantial revenues from new corporate collaborations or patent licensing arrangements, royalties on sales of products licensed under the Company's intellectual property rights or other sources, the Company anticipates that its operating expenses will continue to increase significantly as the Company increases its research and development, manufacturing, preclinical and clinical activity, and administrative and patent activities. Accordingly, in the absence of substantial revenues from new corporate collaborations or patent licensing agreements, significant royalties on sales of Zenapax and other products licensed under the Company's intellectual property rights, or other sources, the Company expects to incur substantial operating losses in the foreseeable future as certain of its earlier stage potential products move into later stage clinical development, as additional potential products are selected as clinical candidates for further development, as the Company invests in additional facilities or manufacturing capacity, as the Company defends or prosecutes its patents and patent applications and as the Company invests in research or acquires additional technologies, product candidates or businesses.

Cash Equivalents, Investments and Concentration of Credit Risk

The Company considers all highly liquid investments purchased with a maturity of three months or less at the date of acquisition to be cash equivalents. The "Other" adjustments line item in the Statements of Cash Flows represents the accretion of the book value of certain debt securities. The Company places its cash and short-term and long-term investments with high-credit-quality financial institutions and in securities of the U.S. government and U.S. government agencies and, by policy, limits the amount of credit exposure in any one financial instrument. To date, the Company has not experienced credit losses on investments in these instruments.

Revenue Recognition

Contract revenues from research and development arrangements are recorded as earned based on the performance requirements of the contracts. Revenues from achievement of milestone events are recognized when the funding party agrees that the scientific or clinical results stipulated in the agreement have been met. Deferred revenue arises principally due to timing of cash payments received under research and development contracts.

The Company's collaborative, humanization and patent licensing agreements with third parties provide for the payment of royalties to the Company based on net sales of the licensed product under the agreement. The agreements generally provide for royalty payments to the Company following completion of each calendar quarter or semi-annual period and royalty revenue is recognized when royalty reports are received from the third party. Non-refundable signing and licensing fees under these arrangements are recognized as revenue when there are no future performance obligations remaining with respect to such fees.

Net Income Per Share

In accordance with Financial Accounting Standards Board Statement No. 128, "Earnings Per Share" ("FAS 128"), net loss per share has been computed using the weighted average number of shares of common stock outstanding during the period. Diluted net loss per share has not been presented as, due to the Company's net loss position, it is antidilutive. Had the Company been in a net income position, diluted earnings per share for 1998, 1997, and 1996 would have included an additional 527,000, 1,052,000, and 964,000 shares, respectively, related to the Company's outstanding stock options.

Comprehensive Income

Effective January 1, 1998, the Company adopted Financial Accounting Standards Statement No. 130, "Reporting Comprehensive Income," ("FAS 130"). Under FAS 130, the Company is required to display comprehensive income and its components as part of the Company's complete set of financial statements. The measurement and presentation of net loss did not change. Comprehensive income is comprised of net loss and other comprehensive income. Other comprehensive income includes certain changes in equity of the Company that are excluded from net loss. Specifically, FAS 130 requires unrealized gains and losses on the Company's holdings of available-for-sale securities, which were reported separately in stockholders' equity, to be included in accumulated other comprehensive income. Comprehensive income for years ended December 31, 1998, 1997 and 1996 has been reflected in the Statements of Stockholders' Equity.

Segment Disclosure

Effective January 1, 1998, the Company adopted Financial Accounting Standards Statement No. 131 "Disclosure about Segments of an Enterprise and Related Information," ("FAS 131"). FAS 131 establishes annual and interim reporting standards for an enterprise's operating segments and related disclosures about its products, services, geographic areas and major customers. The Company has no significant product revenue and only has one segment with facilities solely within the United States. As a result, the adoption of FAS 131 had no impact on reporting by the Company.

Derivative Instruments and Hedging Activities

In June 1998, the Financial Accounting Standards Board issued Statement No. 133 "Accounting for Derivative Instruments and Hedging Activities" (FAS 133). FAS 133 is not required to be adopted until 2000. However, the Company has reviewed FAS 133 and because it does not use derivatives, the adoption of FAS 133 is not expected to effect the results of operations or the financial position of the Company.

Management Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires the use of management's estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. For example, the Company has a policy of recording expenses for clinical trials based upon pro rating estimated total costs of a clinical trial over the estimated length of the clinical trial and the number of patients anticipated to be enrolled in the trial. Expenses related to each patient are recognized ratably beginning upon entry into the trial and over the course of the trial. In the event of early termination of a clinical trial, management accrues an amount based on its estimate of the remaining non-cancellable obligations associated with the winding down of the clinical trial. These estimates and assumptions could differ significantly from the amounts which may actually be realized.

In 1997, Boehringer Mannheim GmbH ("Boehringer Mannheim") invoked the dispute resolution provisions under its collaborative research agreement to address the reimbursement of up to $2.0 million for the Phase II study of Ostavir for the treatment of chronic hepatitis B

("CHB") then being conducted by Boehringer Mannheim as well as certain legal expenses related to Boehringer Mannheim's participation in the Company's public offering in the first quarter of 1997. In March 1998, Roche acquired Boehringer Mannheim. The Company is unable to predict the outcome of this proceeding but in any event has estimated and recorded a liability with respect to this matter. The collaborative research agreement with Boehringer Mannheim provides for reimbursement from PDL of costs and expenses of up to $2.0 million for a Phase II study of Ostavir in the event certain conditions are met with respect to that study.

Property and Equipment

Property and equipment are stated at cost less accumulated straight-line depreciation and amortization and consist of the following:
(In thousands)

	December 31,	
	1998	1997
Laboratory and manufacturing equipment	$16,468	$12,789
Office equipment	4,625	3,608
Furniture and fixtures	17,982	5,927
	39,075	22,324
Less accumulated depreciation and amortization	(16,059)	(12,328)
	$23,016	$9,996

Laboratory, manufacturing, office equipment and furniture and fixtures are depreciated over the estimated useful lives of the assets, generally three to five years.

2. Collaborative, Humanization and Patent Licensing Arrangements

Roche

Roche and the Company have entered into a product licensing agreement for Zenapax, a humanized antibody created by the Company. Since 1998, the Company has received royalties from the sales of Zenapax by Roche. Royalties payable to the Company are subject to certain offsets for milestones, patent expenses and third party royalties paid by Roche under the agreement. The product licensing agreement may be terminated by Roche upon 90 days notice, in which event rights licensed to Roche will revert to the Company.

Lilly

In December 1997, the Company entered into a research, development and licensing agreement with Eli Lilly & Company ("Lilly"). The Company received a non-refundable licensing and signing fee under the agreement of $3.0 million in 1997, of which the Company recognized $1.35 million in 1997. The Company recognized $1.8 million in research and development funding under the agreement in 1998. Related costs under the agreement are anticipated to approximate the related research and development funding revenue and the costs incurred are included in research and development expenses in the accompanying financial statements. The agreement further provides for additional annual research funding of $2.4 million for the second through fifth if the agreement is not earlier terminated. In addition, under this agreement the Company can earn milestones, receive royalty payments on net sales of licensed products and negotiate co-promotion rights in the U.S. and Canada. The agreement may be terminated by Lilly upon written notice ranging from 30-180 days upon the occurrence of certain events, including the event that certain key personnel are no longer associated with the Company or are unable to fulfill certain obligations under the agreement with Lilly.

Humanization Agreements

Since December 31, 1994, PDL has entered into six antibody humanization agreements pursuant to which the Company performed antibody humanization services and granted patent licenses to specified antibody targets with Roche, Mochida Pharmaceutical Co., Ltd., Toagosei Co., Ltd., Genetics Institute, Inc. (a wholly-owned subsidiary of American Home Products Corporation), Teijin Limited and Ajinomoto Co., Inc. Under each of these agreements, PDL received a licensing and signing fee and the right to receive milestone payments for achievement of certain specified milestones, as well as royalties on product sales, if any. Under some of these agreements, PDL received certain rights to co-promote the product. The Company recognized $5.4 million in 1998, $4.0 million in 1997 and $4.5 million in 1996 under these arrangements.

Patent Licensing Arrangements

In 1998, Genentech, Inc. ("Genentech") and the Company entered into an arrangement pursuant which either party may obtain a nonexclusive license to certain intellectual property rights related

to monoclonal antibodies held by the other party. Under the arrangement, the Company received a $6.0 million non-refundable signing and licensing fee recognized as revenue and $1.0 million in expenses in 1998. In 1998, Genentech exercised its rights to obtain a license under the arrangement and entered into a nonexclusive license agreement for Herceptin[R] pursuant to which the Company recognized an additional $1.0 million in income. The license for Herceptin also includes the payment of royalties to the Company based on product sales.

Since November 1996, PDL has entered into thirteen patent licensing agreements, including agreements with Sankyo Co., Ltd., Biogen, Inc., IDEC Pharmaceuticals Corporation, MedImmune, Inc. NeoRx Corporation, Elan Corporation, Tanox Biosystems, Inc., and Medarex, Inc. relating to antibodies humanized by or for those companies. In each agreement, PDL granted a worldwide, nonexclusive license under its humanized antibody patents to the other company for an antibody to a specific target antigen. In each case, PDL received a licensing and signing fee and the right to receive royalties on net sales of licensed products. Under some of these agreements, PDL could also receive milestone payments. The Company recognized a total of $11.4 million in 1998, $5.4 million in 1997 and $1.0 million in 1996 under the Genentech arrangement and other patent licensing agreements during these periods.

3. Other Accrued Liabilities

At December 31, other accrued liabilities consisted of the following:
(In thousands)

	1998	1997
Employee stock purchase plan	$443	$379
Clinical trials	1,293	1,434
Accrued rent	21	256
Construction payable	1,307	--
Other accrued liabilities	1,820	1,577
	$4,884	$3,646

The Company has a policy of recording expenses for clinical trials based upon pro rating estimated total costs of a clinical trial over the estimated length of the clinical trial and the number of patients anticipated to be enrolled in the trial. Expenses related to each patient are recognized ratably beginning upon entry into the trial and over the course of the trial. In the event of early termination of a clinical trial, management accrues an amount based on its estimate of the remaining non-cancellable obligations associated with the winding down of the clinical trial.

4. Commitments

The Company occupies or is responsible for leased facilities under agreements that expire in 1998, 2000 and 2004 and 2010. The Company also has leased certain office equipment under operating leases. Rental expense under these arrangements totaled approximately $2.5 miiilon, $1.7 million and $1.3 million for the years ended December 31, 1998, 1997 and 1996, respectively.

At December 31, 1998 the total future minimum non-cancelable payments under these agreements are approximately as follows:
(In thousands)

1999	$2,926
2000	2,785
2001	1,893
2002	1,935
2003	1,897
Thereafter	11,462
	$22,898

In September 1998, the Company began to relocate its headquarters and research and development facilities to new buildings in Fremont, California and invested approximately $12.2 million in 1998 in order to make the buildings suitable for its operations. Lease commitments under this arrangement are included above.

Effective in June 1997, the Company entered into a Sponsored Research Agreement with Stanford University ("Stanford") to provide aggregate funding and equipment support of up to $3 million over a period of 3 years for the laboratory of Stanley Falkow, Ph.D. In 1998, the Company provided approximately $0.6 million in funding as compared to approximately $1.0 million in funding and equipment support in 1997 under this commitment. Dr. Falkow resigned as a member of the Board of Directors in September 1998 in connection with his becoming an employee and assuming a more extensive role with the Company in certain ongoing research programs. Dr. Falkow is currently on leave of absence at Stanford as he makes the transition to more extensive efforts at the Company. The funding arrangement provides the Company with certain exclusive rights to intellectual property resulting from the research efforts in Dr. Falkow's laboratory at Stanford during the funding period. The amount of annual funding from

the Company is subject to reduction in the event that Dr. Falkow obtains other grants or financial support for his laboratory. The agreement further provides that the Company may terminate the funding arrangement upon 90 days written notice.

5. Short- and Long-Term Investments

The Company invests its excess cash balances in short-term and long-term marketable securities and U.S. government and government agency notes. These securities are classified as available-for-sale. Available-for-sale securities are carried at fair value, with the unrealized gains and losses reported in stockholders' equity. The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization is included in interest income. The cost of securities sold is based on the specific identification method, when applicable.

The following is a summary of available-for-sale securities. Estimated fair value is based upon quoted market prices for these or similar instruments.

(In thousands)

	Available-for-Sale Securities			
	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
December 31, 1998				
Securities of the U.S. Government and its agencies	$115,373	$232	($99)	$115,506
U.S. corporate securities	13,922	27	(1)	13,948
	$129,295	$259	($100)	$129,454
December 31, 1997				
Securities of the U.S. Government and its agencies	$139,815	$589	($15)	$140,389
Mortgage-backed securities	14,000	--	--	14,000
	$153,815	$589	($15)	$154,389

During 1998 and 1997, there were no realized gains or losses on the sale of available-for-sale securities, as all securities liquidated in each of these years were held to maturity. The remaining contractual period until maturity of short-term and long-term investments generally range from 1 to 9 months, and 28 to 36 months, respectively.

6. Stockholders' Equity

1997 Public Offering

In March 1997, the Company completed a public offering in which it sold 2,275,000 shares of common stock at a price per share of $32.00. The net proceeds of this offering to the Company were approximately $68.2 million.

1997 Private Placement

In October 1997, the Company entered into a Stock Purchase Agreement with Toagosei pursuant to which the Company sold 44,568 shares of Common Stock to Toagosei at a price of $44.875. The net proceeds of this offering to the Company were approximately $2.0 million.

1991 Stock Option Plan

In December 1991, the Board of Directors adopted the 1991 Stock Option Plan (the "Option Plan"). As of December 31, 1998, the Company has 4,000,000 shares of common stock reserved for the grant of options under the Option Plan of which 658,376 shares are available for grant.

At December 31, 1998, options to purchase 1,154,089 shares were exercisable at prices ranging from $6.25 to $43.75. Options granted under the Option Plan generally vest at the rate of 25 percent at the end of the first year, with the remaining balance vesting monthly over the next three years in the case of employees, and ratably over two or five years in the case of advisors and consultants.

1992 Outside Directors' Stock Option Plan

In February 1992 the Board of Directors adopted the 1992 Outside Directors' Stock Option Plan (the "Directors' Plan"). The Company has reserved 200,000 shares of common stock for the grant of options under the Directors' Plan. Through December 31, 1998, the Company

granted options to purchase 165,000 shares at exercise prices ranging from $7.25 to $38.75 per share, of which 45,500 were exercisable at December 31, 1998. Options granted pursuant to the Directors' Plan vest ratably over five years. A total of 25,000 options were exercised through December 31, 1998.

1993 Employee Stock Purchase Plan

In February 1993, the Board of Directors adopted the 1993 Employee Stock Purchase Plan (the "Employee Purchase Plan"). The Company has reserved 300,000 shares of common stock for the purchase of shares by employees under the Employee Purchase Plan. Eligibility to participate in the Employee Purchase Plan is essentially limited to full time employees of the Company who own less than 5% of the outstanding shares of the Company. Under the Employee Purchase Plan, eligible employees can purchase shares of the Company's common stock based on a percentage of their compensation, up to certain limits. The purchase price per share must equal at least the lower of 85% of the market value on the date offered or on the date purchased. During 1998, an aggregate of 32,287 shares was purchased by employees under the Employee Purchase Plan at prices ranging from $20.48 to $23.27 per share.

Accounting for Stock-Based Compensation

The Company has elected to follow Accounting Principles Board Opinion No. 25, "Accounting of Stock Issued to Employees" ("APB 25") and related interpretations, in accounting for stock-based awards to employees, consultants and directors under the Option Plan and Directors' Plan because, as discussed below, the alternative fair value accounting provided for under Financial Accounting Standard 123 "Accounting for Stock-Based Compensation" ("FAS 123") requires use of option valuation models that were not developed for use in valuing employee stock-based awards. Under APB 25, because the exercise price of the Company's stock options equals the market price of the underlying stock on the date of grant, no compensation expense is recognized. Pro forma information regarding net income and earnings per share in 1998, 1997 and 1996 has been determined as if the Company had accounted for its stock-based awards under the fair value method prescribed by FAS 123. The resulting effect on pro forma net income and earnings per share on a pro forma basis disclosed for 1998, 1997 and 1996 is not likely to be representative of the effects on net income and earnings per share on a pro forma basis in future years, because 1998, 1997 and 1996 pro forma results include the impact of only four years, three years and two years, respectively, of options vesting, while subsequent years will include additional years of vesting. The 1997 pro forma net loss excludes the $11.9 million non-cash special charge related to the extension of all stock options granted prior to February 1995 except stock options granted to one non-employee director (See Note 9). The special charge represents the intrinsic value of the modified options calculated in accordance with APB 25. Under FAS 123, only the additional compensation cost related to the time value of the modified options is included in pro forma net losses.

(In thousands, except per share data)	1998	1997	1996
Net loss:			
As reported	($9,502)	($23,875)	($11,796)
Pro forma	($17,626)	($17,727)	($14,399)
Loss per share:			
As reported	($0.51)	($1.35)	($0.76)
Pro forma	($0.95)	($1.00)	($0.92)

The fair value of each option grant is estimated on the date of grant using the Black-Scholes options pricing model with the following weighted-average assumptions used for grants in 1998, 1997 and 1996, respectively: (a) no dividends; (b) expected volatility of 75% for 1998 and 55% for prior years; (c) weighted-average risk-free interest rates of 5.45%, 6.22% and 5.93%; and (d) expected lives of 5 years.

A summary of the status of the Company's stock option plans as of December 31, 1998, 1997 and 1996, and changes during the years ending those dates is presented below.

	1998		1997		1996	
(In thousands, except exercise prices)	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
Outstanding at beginning of year	2,100	$22.25	1,941	$18.44	1,756	$15.61
Granted	803	32.70	448	36.25	608	24.90
Exercised	(215)	15.06	(237)	17.16	(309)	13.23
Forfeited	(200)	26.48	(52)	23.66	(114)	21.32
Outstanding at end of year	2,488	25.90	2,100	22.25	1,941	18.44

Weighted average fair value of options granted during the year	$21.23	$21.33	$14.23
Exercisable at end of year	1,200	998	775

The following information applies to all stock options under the Company's stock option plans at December 31, 1998:

(In thousands, except exercise prices and remaining contractual life data)

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number Outstanding	Weighted Average Remaining Contractual Life (years)	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
$ 6.25 - $10.50	108	3.63	$7.94	108	$7.94
$12.13 - $18.13	700	5.49	16.02	651	15.92
$19.06 - $29.25	794	8.28	23.11	307	24.04
$31.50 - $43.75	886	9.09	38.40	134	36.50
	2,488		$25.90	1,200	$19.58

7. Income Taxes

As of December 31, 1998 the Company had federal and state net operating loss carryforwards of approximately $54.7 million and $4.1 million, respectively. Federal net operating loss carryforwards will expire at various dates beginning in 2002 through 2018, if not utilized.

The federal net operating loss carryforward differs from the accumulated deficit principally due to temporary differences in the recognition of certain revenue and expense items for financial and federal tax reporting purposes, consisting primarily of in-process technology capitalized for federal tax purposes.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting and the amount used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities for federal and state income taxes as of December 31 are as follows:

(In thousands)

	1998	1997
Deferred tax assets:		
Net operating loss carryforwards	$18,800	$15,700
Research credits	5,600	3,400
Deferred revenue	900	600
Capitalized research and development	3,800	3,300
Special stock option charge	--	4,700
Other	(100)	400
Total deferred tax assets	29,000	28,100
Valuation allowance for deferred tax asset	(29,000)	(28,100)
Net deferred tax assets	$ --	$ --

Because of the Company's lack of earnings history, the deferred tax assets have been fully offset by a valuation allowance. The valuation allowance increased by $11.0 million during the year ended December 31, 1997.

Utilization of the net operating loss and credit carryforwards may be subject to a substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code of 1986 and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before utilization.

8. Legal Proceedings

The Company is involved in administrative opposition proceedings being conducted by the European Patent Office with respect to its European patent relating to humanized antibodies. Eighteen oppositions were filed with respect to the issuance of the patent to the Company in January 1996. The opposition briefs argue that the patent was incorrectly granted and should be withdrawn or limited. See "Business -- Patents and Proprietary Technology" and "Risk Factors -- Uncertainty of Patents and Proprietary Technology; Opposition Proceedings." The Company has submitted its response to the briefs filed by these parties. The Company has recently entered

into a similar opposition period proceeding being conducted by the Japanese Patent Office with respect to the Company's recently issued Japanese patent relating to humanized antibodies. The time to file oppositions in this proceeding has not yet expired but the Company expects opposition briefs to be filed with respect to the issuance of the Japanese patent to the Company in December 1998.

The Company believes that the outcome of these opposition proceedings will not have a material adverse effect on the financial position, results of operations or the cash flows of the Company. However, if such outcomes were to be unfavorable, the Company's ability to collect royalties on licensed products and to license its patents relating to humanized antibodies may be materially adversely affected which could in the future have a material adverse effect on the Company's results of operations, cash flows and financial position.

In 1997, Boehringer Mannheim invoked the dispute resolution provisions under its collaborative research agreement with the Company to address the reimbursement of up to $2.0 million for the terminated Phase II study of Ostavir for the treatment of chronic active hepatitis B initiated by Boehringer Mannheim as well as certain legal expenses related to Boehringer Mannheim's participation in the Company's public offering in early 1997. The collaborative research agreement with Boehringer Mannheim provides for reimbursement from PDL of costs and expenses of up to $2.0 million for a Phase II study of Ostavir in the event certain conditions are met with respect to that study. In March 1998, Roche acquired Boehringer Mannheim. The Company is unable to predict the outcome of this proceeding but in any event has estimated and recorded a liability with respect to this matter. Other than such legal proceeding, the Company is not a party to any material legal proceedings.

9. Special Charge

In 1997, the Company incurred a non-cash special charge of approximately $11.9 million related to the extension of the term of all stock options held by employees, officers, directors and consultants of the Company that were granted prior to February 1995, with the single exception of stock options granted to one non-employee director. The non-cash special charge conforms the term of previously granted stock options, which was six years, to those granted since February 1995, ten years. The special charge resulted in an increase in additional paid-in capital of approximately $11.9 million, although no proceeds were received by the Company.

Report of Ernst & Young LLP, Independent Auditors

Board of Directors and Stockholders Protein Design Labs, Inc.

We have audited the accompanying balance sheets of Protein Design Labs, Inc., as of December 31, 1998 and 1997, and the related statements of operations, stockholders' equity and cash flows for each of three years in the period ended December 31, 1998. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Protein Design Labs, Inc. at December 31, 1998 and 1997, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 1998 in conformity with generally accepted accounting principles.

/s/ ERNST & YOUNG LLP

Palo Alto, California
February 2, 1999

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not Applicable.

PART III

Certain information required by Part III is omitted from

this Report in that the Registrant will file a definitive proxy statement pursuant to Regulation 14A for the 1999 Annual Meeting of Stockholders (the "Proxy Statement") not later than 120 days after the end of the fiscal year covered by this Report, and certain information included therein is incorporated by reference.

ITEM 10. EXECUTIVE OFFICERS AND DIRECTORS

The information concerning the Company's directors as required by this Item is incorporated by reference to the Section entitled "Nomination of Directors" of the Proxy Statement.

The information concerning the Company's executive officers as required by this Item is incorporated by reference to the Section entitled "Executive Officers of the Registrant" of the Proxy Statement.

The information concerning compliance with requirements regarding reporting of timely filing of statements regarding changes in beneficial ownership of securities of the Company as required by this Item is incorporated by reference to the Section entitled "Section 16(a) Reporting" of the Proxy Statement.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated by reference to the Section entitled "Executive Compensation and Other Matters" of the Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information required by this Item is incorporated by reference to the Section entitled "Security Ownership of Certain Beneficial Owners and Management" of the Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information required by this Item is incorporated by reference to the Section entitled "Executive Compensation and Other Matters - Compensation Committee Interlocks and Insider Participation" of the Proxy Statement.

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

(a) The following documents are filed as part of this report:

(1) Index to financial statements

The following financial statements of the Company and the Report of the Independent Auditors are included in Part II, Item 8.

Item

Page

Balance Sheets

Statements of Operations

Statements of Stockholders' Equity

Statements of Cash Flows

Report of Ernst & Young LLP, Independent Auditors

(2) All financial statement schedules are omitted because the information is inapplicable or presented in the Financial Statements or notes.

(3) The items listed on the Index to Exhibits on page __ are incorporated herein by reference.

(b) Reports on Form 8-K.

None.

(c) See (a)(3) above.

(d) See (a)(3) above.

SIGNATURES

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

PROTEIN DESIGN LABS, INC.
(Registrant)

By: /s/ LAURENCE JAY KORN

Laurence Jay Korn,
Chief Executive Officer
and Chairperson of the Board
of Directors

March 30, 1999

Date

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

Signature	Title	Date
/s/ LAURENCE JAY KORN (Laurence Jay Korn)	Chief Executive Officer and Chairperson of the Board of Directors (Principal Executive Officer)	March 30, 1999
/s/ JON S. SAXE (Jon S. Saxe)	President and Director (Principal Accounting Officer)	March 30, 1999
/s/ CARY L. QUEEN (Cary L. Queen)	Director	March 30, 1999
/s/ GEORGE M. GOULD (George M. Gould)	Director	March 30, 1999
/s/ MAX LINK (Max Link)	Director	March 30, 1999

INDEX TO EXHIBITS

Exhibit Number	Exhibit Title
3.1	Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.1 to Annual Report on Form 10-K filed March 31, 1993.)
3.2	Amended and Restated Bylaws. (Incorporated by reference to Exhibit 3.1 to Annual Report on Form 10-Kfiled March 31, 1995.)
4.1	Registration Rights Agreement between the Company and certain holders of Preferred Stock and Common Stock, dated August 21, 1986. (Incorporated by reference to Exhibit 4.1 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)
4.2	Amendment to Registration Rights Agreement between the Company and certain holders of Preferred Stock and Common Stock, dated March 16, 1989. (Incorporated by reference to Exhibit 4.2 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)
4.3	Registration Rights Agreement between the Company and Hoffmann-La Roche Inc., dated March 16, 1989. (Incorporated by reference to Exhibit 4.3 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)
4.4	Standstill Agreement between the Company and Hoffmann-La Roche Inc., dated March 16, 1989. (Incorporated by reference to Exhibit 4.4 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)
4.5	Registration Rights Agreement between the Company and Corange International Limited, dated October 28, 1993. (Incorporated by Reference to Exhibit 4.5 to Annual Report on Form 10-K filed March 31, 1994.)
4.6	Standstill Agreement between the Company and Corange International Limited, dated October 28, 1993. (Incorporated by Reference to Exhibit 4.5 to Annual Report on Form 10-K filed March 31, 1994.)

4.7
Amendment No. 1 to Stock Purchase Agreement, Registration Rights Agreement and Joint Development, Marketing and Licensing Agreement. (Incorporated by Reference to Exhibit 5.2 to Current Report on Form 8-K filed December 15, 1994.)

*10.1
1991 Stock Option Plan, as amended on October 20, 1992 and June 15, 1995, together with forms of Incentive Stock Option Agreement and Nonqualified Stock Option Agreements. (Incorporated by reference to Exhibit 10.1 to Annual Report on Form 10-K filed March 31, 1996.)

*10.2
Founder Stock Purchase Agreement between the Company and Dr. Laurence Jay Korn, dated August 21, 1986. (Incorporated by reference to Exhibit 10.3 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

*10.3
Founder Stock Purchase Agreement between the Company and Dr. Cary Queen, dated January 1, 1987. (Incorporated by reference to Exhibit 10.4 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

*10.4
1986 Stock Purchase Plan. (Incorporated by reference to Exhibit 10.18 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

*10.5
Forms of Stock Purchase Agreement under the 1986 Stock Purchase Plan. (Incorporated by reference to Exhibit 10.19 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

*10.6
Outside Directors Stock Option Plan, together with form of Nonqualified Stock Option Agreements. (Incorporated by reference to Exhibit 10.31 to Annual Report on Form 10-K filed March 31, 1993.)

*10.7
1993 Employee Stock Purchase Plan. (Incorporated by reference to Exhibit 10.32 to Annual Report on Form 10-K filed March 31, 1993.)

*10.8
Letter Agreement between the Company and Saxe Associates, dated June 14, 1993 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.9 to Annual Report on Form 10-K filed March 31, 1994.)

10.9
Lease Agreement between the Company and Charleston Properties, a California general partnership, dated December 22, 1989. (Incorporated by reference to Exhibit 10.5 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

10.10
First Amendment of Lease between the Company and Charleston Properties, a California general partnership, dated August 31, 1992. (Incorporated by reference to Exhibit 10.26 to Annual Report on Form 10-K filed March 31, 1993.)

10.11
Lease Agreement between the Company and Plymouth Business Center I Partnership, a Minnesota general partnership, dated February 10, 1992. (Incorporated by reference to Exhibit 10.28 to Annual Report on Form 10-K filed March 31, 1993.)

10.12
Amendment No. 1 to Lease Agreement between the Company and Plymouth Business Center I Partnership, a Minnesota general partnership, dated July 8, 1993. (Incorporated by reference to Exhibit 10.14 to Annual Report on Form 10-K filed March 31, 1994.)

10.13
License Agreement between the Company and the National Technical Information Service effective as of October 31, 1988 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.7 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

10.14
License Agreement between the Company and Hoffmann-La Roche Inc. effective January 31, 1989 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.8 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

10.15
License Agreement between the Company and F. Hoffmann-La Roche & Co. effective January 31, 1989 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.9 to Registration Statement No. 33-44562

effective January 28, 1992.)

10.16
License Agreement between the Company and the Medical Research Council of the United Kingdom dated July 1, 1989, as amended on January 30, 1990 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.10 to Registration Statement No. 33-44562 effective January 28, 1992.)

10.17
Software License Agreement among the Company, Molecular Applications Group and Michael Levitt effective September 1, 1990 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.14 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

10.18
Development and License Agreement between the Company and Yamanouchi Pharmaceutical Company, Ltd. effective February 12, 1991, as amended on February 12, 1991 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.16 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

10.19
Form of Director and Officer Indemnification Agreement. (Incorporated by reference to Exhibit 10.1 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

10.20
Stock Purchase Agreement between the Company and certain holders of Preferred Stock and Common Stock dated August 21, 1986. (Incorporated by reference to Exhibit 10.22 to Registration Statement No. 33-44562 effective January 28, 1992, as amended.)

10.21
Stock Purchase Agreement between the Company and Hoffmann-La Roche Inc. dated March 16, 1989. (Incorporated by reference to Exhibit 10.25 to Registration Statement No. 33-44562 effective January 28, 1992.)

10.22
Agreement for Purchase and Sale of Assets between the Company and Helix BioCore, Inc., a Minnesota corporation, dated February 10, 1992. (Incorporated by reference to Exhibit 10.27 to Annual Report on Form 10-K filed March 31, 1993.)

10.23
Agreement between the Company and Kanebo, Ltd., a Japanese corporation, dated February 29, 1992. (Incorporated by reference to Exhibit 10.29 to Annual Report on Form 10-K filed March 31, 1993.)

10.24
Letter dated November 4, 1992 amending the License Agreement between the Company and Hoffmann-La Roche Inc. effective January 21, 1989. (Incorporated by reference to Exhibit 10.30 to Annual Report on Form 10-K filed March 31, 1993.)

10.25
Asset Purchase and License Agreement among the Company, Sandoz Pharma Ltd. and Sandoz Pharmaceuticals Corporation, dated April 13, 1993 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 5.1 to Current Report on Form 8-K filed April 28, 1993.)

10.26
License Agreement among the Company, Sandoz Pharma Ltd. and Sandoz Ltd., dated April 13, 1993 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 5.2 to Current Report on Form 8-K filed April 28, 1993.)

10.27
Letter dated October 21, 1993 amending the Asset Purchase and License Agreement among the Company, Sandoz Pharma Ltd. and Sandoz Pharmaceuticals Corporation, dated April 13, 1993 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.31 to Annual Report on Form 10-K filed March 31, 1994.)

10.28
Amended and Restated Agreement between the Company and Sloan-Kettering Institute for Cancer Research, dated April 1, 1993 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.32 to Annual Report on Form 10-K filed March 31, 1994.)

10.29
Stock Purchase Agreement between the Company and Corange International Limited, dated October 28, 1993. (Incorporated by reference to Exhibit 5.1 to Current Report on Form 8-K filed November 12, 1993.)

10.30

Joint Development, Marketing and License Agreement between the Company and Corange International Limited, dated October 28, 1993 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 5.2 to Current Report on Form 8-K filed November 12, 1993.)

10.31
License Agreement between the Company and The Board of Trustees of Leland Stanford Junior University effective as of June 30, 1993 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.35 to Annual Report on Form 10-K filed March 31, 1994.)

10.32
Lease Agreement between the Company and Bio-Shore Holdings, Ltd. dated as of May 16, 1994 (Incorporated by reference to Exhibit 10.1 to Quarterly Report on Form 10-Q filed August 2, 1994.)

10.33
Amendment No. 2 to Lease Agreement between the Company and St. Paul Properties, effective as of October 25, 1994. (Incorporated by reference to Exhibit 10.36 to Annual Report on Form 10-K filed March 31, 1995.)

10.34
Amendment No. 1 to Lease Agreement between the Company and Bio-Shore Holdings, Ltd. dated as of October 17, 1994. (Incorporated by reference to Exhibit 10.38 to Annual Report on Form 10-K filed March 31, 1995.)

10.35
Patent License Agreement between the Company and Celltech Limited dated as of September 30, 1994 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.39 to Annual Report on Form 10-K filed March 31, 1995.)

10.36
Amendment No. 2 to Joint Development, Marketing and Licensing Agreement between the Company and Boehringer Mannheim GmbH dated and effective as of November 7, 1995 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.37 to Annual Report on Form 10-K filed March 31, 1996.)

10.37
Development and License Agreement between the Company and an Unnamed Japanese Pharmaceutical Company dated December 28, 1995 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by Reference to Exhibit 10.38 to Annual Report on Form 10-K filed March 31, 1996.)

10.38
Amendment No. 3 to Joint Development, Marketing and Licensing Agreement between the Company and Boehringer Mannheim GmbH dated and effective as of May 31, 1996 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by Reference to Exhibit 10.1 to Quarterly Report on Form 10-Q filed August 14, 1996.)

10.39
Amendment No. 3 to Lease Agreement between the Company and St. Paul Properties, effective as of November 27, 1996. (Incorporated by Reference to Exhibit 10.39 to Annual Report on Form 10-K filed February 13, 1997.)

10.40
Amendment No. 2 to Amended and Restated Agreement between the Company and Sloan-Kettering Institute for Cancer Research dated January 2, 1997. (Incorporated by Reference to Exhibit 10.1 to Quarterly Report on Form 10-Q filed May 14, 1997.)

*10.41
Outside Directors Stock Option Plan together with form of nonqualified stock option agreement as amended effective February 6, 1997. (Incorporated by Reference to Exhibit 10.2 to Quarterly Report on Form 10-Q filed May 14, 1997.)

10.42
Lease agreement between the Company and John Arrillaga, Trustee or his Successor Trustee, et al. dated February 20, 1997. (Incorporated by Reference to Exhibit 10.3 to Quarterly Report on Form 10-Q filed May 14, 1997.)

10.43
Industrial Lease Agreement between the Company and Ardenstone LLC, effective as of July 1, 1997. (Incorporated by Reference to Exhibit 10.40 to Quarterly Report on Form 10-Q filed August 14, 1997.)

10.44
Second Amendment of Lease Agreement between Bio-Shore Holdings, Ltd., and the Company, dated February 25, 1998. (Incorporated by Reference to Exhibit 10.40 to Annual Report on Form 10-K filed March 31, 1998.)

10.45
Patent Licensing Master Agreement between the Company and Genentech,

Inc., dated as of September 25, 1998 (with certain confidential information deleted and marked by a box surrounding the deleted information). (Incorporated by reference to Exhibit 10.10 to Quarterly Report on Form 10-Q filed November 16, 1998.)

23.1
Consent of Ernst & Young LLP, Independent Auditors.

27.1
Financial Data Schedule.

_____

* Management contract or compensatory plan or arrangement

EXHIBIT 23.1

CONSENT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Registration Statements (Forms S-8 Nos. 33-65224, 33-50116, 33-50114, and 33-96318) pertaining to the Employee Stock Purchase Plan, Outside Directors Stock Option Plan and 1991 Stock Option Plan of Protein Design Labs, Inc.of our report dated February 2, 1999 with respect to the financial statements of Protein Design Labs, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 1998.

ERNST & YOUNG LLP

Palo Alto, California
March 29, 1999

5
This schedule contains summary financial information extracted from the Balance Sheet and Statement of Operations included in the Company's Form 10-K for the year ended December 31, 1998 and is qualified in its entirety by reference to such Financial Statements.

1

Dec-31-1998
Jan-01-1998
Dec-31-1998
12-MOS
27,907
59,233
0
0
0
91,748
39,075
16,059
171,850
9,354
0
0
0
186
162,310
171,850
0
30,828
0
0
40,330
0
0
(9,502)
0
(9,502)
0
0
0
(9,502)
($0.51)
($0.51)