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SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549  
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FORM 10-K

<TABLE>  
<C> <S>  
/X/ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE  
SECURITIES EXCHANGE ACT OF 1934  
</TABLE>

FOR THE FISCAL YEAR ENDED DECEMBER 31, 1999  
OR

<TABLE>  
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/ / TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE  
SECURITIES EXCHANGE ACT OF 1934  
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Commission File No. 0-27436  
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TITAN PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

<TABLE>  
<S> <C>  
DELAWARE 94-3171940  
(State or other jurisdiction of (I.R.S. employer identification  
incorporation or organization) number)  
</TABLE>

400 OYSTER POINT BLVD., SUITE 505, SOUTH SAN FRANCISCO, CALIFORNIA 94080  
(Address of principal executive offices, including zip code)

(650) 244-4990  
(Registrant's telephone number, including area code)

SECURITIES REGISTERED PURSUANT TO SECTION 12(B) OF THE ACT:  
None

SECURITIES REGISTERED PURSUANT TO SECTION 12(G) OF THE ACT:  
Common Stock, \$.001 par value  
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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 twelve (12) months (or for such shorter period that the registrant was required to file such report(s)), and (2) has been subject to the filing requirements for the past ninety (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 /X/.

The aggregate market value of the voting stock held by non-affiliates of the registrant was approximately \$914 million, based on the last sales price of the common stock as of March 24, 2000.

As of March 24, 2000, 25,550,075 shares of common stock, \$.001 par value, of the registrant were issued and outstanding.  
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PART I

Statements in this Form 10-K that are not descriptions of historical facts are forward-looking statements that are subject to risks and uncertainties. Actual results could differ materially from those currently anticipated due to a number of factors, including those set forth under "Risk Factors" including, but not limited to, the results of research and development efforts, the results of pre-clinical and clinical testing, the effect of regulation by the United States Food and Drug Administration (FDA) and other agencies, the impact of competitive products, product development, commercialization and technological difficulties, the results of financing efforts, the effect of our accounting policies, and other risks detailed in our Securities and Exchange Commission filings.

Spheramine-TM-, CeaVac-Registered Trademark-, TriAb-Registered Trademark-, TriGem-TM-, Pivanex-TM- and CCM-TM- are trademarks of Titan Pharmaceuticals, Inc. Zomaril-TM- is a trademark of Novartis Pharma AG. This Form 10-K also includes trade names and trademarks of companies other than Titan Pharmaceuticals, Inc.

ITEM 1. BUSINESS

(A) GENERAL DEVELOPMENT OF BUSINESS

Titan Pharmaceuticals, Inc. is a biopharmaceutical company developing proprietary therapeutics for the treatment of central nervous system (CNS) disorders, cancer, and other serious and life threatening diseases.

In the CNS arena, we are developing iloperidone, which is currently in Phase III clinical testing for schizophrenia through a licensing and development agreement with Novartis Pharma AG. Novartis has tradenamed the product Zomaril. Novartis is fully funding and conducting the Phase III program, which will enroll approximately 3,300 patients in 24 countries. Zomaril is being developed for the treatment of schizophrenia and related psychotic disorders--a market expected to reach \$6 billion by 2003. Also in the CNS arena, we are developing a unique cell based therapeutic, Spheramine, which is in Phase I/II testing, for the treatment of Parkinson's disease. We have entered into a collaboration with Schering AG for the development, manufacture and commercialization of this treatment for Parkinson's disease, and Schering is funding the manufacturing, development and clinical studies of the product in exchange for worldwide commercialization rights.

Our cancer therapeutics in clinical testing include three monoclonal antibodies--CeaVac, TriAb, and TriGem--which are designed to stimulate a patient's immune system against various types of cancer cells. CeaVac is currently being evaluated in a large multi-center double-blind placebo-controlled Phase II/III clinical trial in patients with Stage IV metastatic colorectal cancer. TriAb is currently being evaluated in a double-blind placebo-controlled Phase II clinical study in patients with breast cancer. TriGem has completed initial Phase I testing in patients with melanoma, and we are pursuing later stage clinical trials through co-operative clinical oncology research groups. Another Titan anti-cancer product in development, Pivanex, is a small molecule drug that acts as a cell differentiating agent. Pivanex is currently in Phase II clinical testing for non-small cell lung cancer. Additionally, we are developing a gene therapy product for treating various cancers. Further, we are developing a long-term drug delivery system with applications in the treatment of CNS disorders and other condition.

We were incorporated in Delaware in February 1992 and have been funded through various sources, including our initial public offering in January 1996 and private placements of our securities, as well as proceeds from warrant and option exercises, corporate licensing and collaborative agreements, and government sponsored research grants.

Our gene therapy and long term drug delivery technologies are being developed in our two consolidated subsidiaries: Ingenex, Inc., and ProNeura, Inc., respectively. References to us and our products throughout this document include the products under development by the two subsidiaries.

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(B) FINANCIAL INFORMATION ABOUT INDUSTRY SEGMENTS

We operate in only one business segment, the development of biopharmaceutical products.

(C) NARRATIVE DESCRIPTION OF BUSINESS

PRODUCT DEVELOPMENT PROGRAMS

ZOMARIL (ILOPERIDONE)--SCHIZOPHRENIA AND RELATED PSYCHOTIC DISORDERS

In January 1997, we entered into a license agreement with Hoechst Marion Roussel, Inc., pursuant to which we acquired an exclusive worldwide license to iloperidone, an antipsychotic agent in development for treatment of schizophrenia and related disorders. Schizophrenia strikes relatively early in adult life and is generally viewed as a chronic, long-term disorder. Schizophrenia is characterized by the presence of "positive" symptoms, such as delusions, hallucinations, and disorganized speech, and "negative" symptoms such as withdrawal and apathy. According to the World Health Organization, approximately 45 million people worldwide have some form of schizophrenia or a related psychotic disorder.

Zomaril (iloperidone) is one of a new class of antipsychotic medications, referred to as atypical antipsychotics, which are believed to be more effective against most of the symptoms of schizophrenia with a lower incidence of side effects than older medications. The results of Phase II trials, as well as preliminary data from the Phase III study, demonstrate that Zomaril may provide effective treatment against symptoms of schizophrenia, with lower incidence of extrapyramidal symptoms and other significant side effects.

In November 1997, we entered into an agreement with Novartis Pharma AG in which we granted a sublicense to Novartis for the worldwide (with the exception of Japan) development, manufacturing and marketing of Zomaril. Pursuant to the Novartis sublicense, Novartis paid us approximately \$17.4 million in license fees and reimbursement of research and development expenses and made a \$5 million equity investment in us, and is required to make additional milestone and royalty payments to Hoechst and us. Novartis commenced its Phase III program for Zomaril in August 1998 and expects to complete all studies by mid 2001.

IMMUNOTHERAPEUTICS--CANCER THERAPY

We are engaged in development of cancer immunotherapeutics utilizing anti-idiotypic antibody technology licensed from the University of Kentucky Research Foundation. These monoclonal antibody therapeutics under development

mimic specific antigens that are primarily present on the targeted cancer cell and are not commonly found on normal tissue. From a molecular biological perspective the antibody is structurally similar to the cancer antigen. When injected into a patient, the vaccine acts as a trigger for the normal immune system's response of lymphocytes to attack cancer cells.

We are developing three such products that have collectively demonstrated an immune response in humans against antigens associated with colon cancer, breast cancer, ovarian cancer, small cell lung cancer, melanoma and other cancers. The products are:

- CeaVac--We believe this product has potential utility in the treatment of adenocarcinomas, notably, colorectal cancer, non-small cell lung cancer, pancreatic cancer, gastric cancer and other cancers. The target, carcinoembryonic antigen, is presented in the largest group of cancers, adenocarcinomas. In particular, this product has received significant interest in the international oncology community, as it is the first published report of a vaccine to consistently break carcinoembryonic antigen immune tolerance in humans. CeaVac is currently being evaluated in a multi-center double-blind placebo-controlled Phase II/III clinical trial in patients with Stage IV metastatic colorectal cancer. We are also pursuing additional clinical studies through co-operative groups.

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- TriAb--We believe this product has potential utility in the treatment of breast, ovarian and non-small cell lung cancer. TriAb is currently being evaluated in a double-blind placebo-controlled Phase II clinical study in patients with breast cancer.
- TriGem--We believe this product has potential utility in the treatment of melanoma, small cell lung cancer and sarcoma. TriGem has completed initial Phase I testing in patients with melanoma, and we are pursuing later stage clinical trials through co-operative clinical oncology research groups.

#### PIVANEX--ANTI-CANCER THERAPY BASED UPON CELLULAR DIFFERENTIATION

Pivanex is made from a patented analog of butyric acid and has demonstrated in laboratory tests the ability to destroy cancer cells through the mechanism of cellular differentiation. Traditional cytotoxic chemotherapeutics tend to kill cancer cells preferentially because cancer cells divide more often and more rapidly than most normal cells. Unfortunately, such agents may also kill rapidly dividing normal cells, including blood cells and cells of the intestine lining, which leads to side effects such as anemia, nausea, vomiting and risk of infection. Unlike traditional cytotoxic chemotherapy, differentiation therapy represents a relatively new direction in cancer research, and involves the development of agents that, in contrast to the function of cytotoxic agents, induce cancer cells to differentiate and undergo terminal cellular senescence. Differentiation therapy may also lead to apoptosis, or what is known as normal "programmed cell death," resulting in the destruction of the cancer cells while sparing normal cells. Pivanex is currently in Phase II clinical testing in patients with non-small cell lung cancer.

#### CELL THERAPY PRODUCTS (SPHERAMINE)--PARKINSON'S DISEASE

We are engaged in the development of cell-based therapeutics intended for use in the treatment of neurological diseases. A majority of neurological disorders, including Parkinson's disease, Alzheimer's disease, stroke and epilepsy, occur when brain cells (neurons) die. Because neurons cannot readily regenerate in response to injury or cell death, most current pharmaceutical therapies are directed toward amplifying the function of the remaining neurons, an approach which becomes less effective over time as an increasing number of the neurons die. In addition, because traditional drugs are delivered through the blood stream to all body tissues, even though they are intended to act on only certain sites in the brain, side effects result from the delivery of the agents to these other non-target organs and tissues. Our proprietary technologies enable the development of cell-based therapies for minimally-invasive, site specific (i.e., stereotaxic) delivery to the central nervous system of therapeutic factors precisely where they are needed in order to treat the neurological disease or disorder.

One of our technologies, licensed on an exclusive worldwide basis from New York University, involves the direct implantation into the CNS of microscopic beads (microcarriers), the surfaces of which are coated with live cells that secrete therapeutic factors useful in the treatment of certain neurological diseases. The beads provide a matrix, or surface, to which cells attach and grow. We believe that this cell-coated microcarrier (CCM) technology can facilitate site-specific delivery of missing or deficient neurotransmitters and growth factors to diseased or injured areas of the brain by increasing the survival and successful engraftment of implanted cells. Our first product under development based on this technology is Spheramine, consisting of microcarriers coated with dopamine-producing human pigment retinal epithelial cells, intended for the treatment of Parkinson's disease. Preliminary evidence of efficacy of Spheramine has been demonstrated in a validated primate model of Parkinson's Disease (MPTP monkey model). Based on these promising results and successful initial safety testing in primates, we initiated Phase I/II clinical testing of this product in an open-label evaluation of safety and efficacy. This study is being performed at Emory University.

In January 2000, we entered into an agreement with Schering AG, under which Schering and we will collaborate on manufacturing and clinical development of cell therapy for the treatment of Parkinson's disease. We will receive funding for development activities, as well as potential reimbursement of certain

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prior research and development expenses. Schering will fully fund, and manage in

collaboration with us, all future pilot and pivotal clinical studies, and manufacturing and development activities. Under this agreement, Schering received exclusive, worldwide development, manufacturing and commercialization rights, and, in addition to the above payments, agreed to pay us a royalty on product sales. Schering also retains the right to make an equity investment in us, up to a specified amount, upon initiation of pivotal clinical studies. In addition to the collaborative development of Spheramine for Parkinson's disease, Titan and Schering will also mutually explore other potential therapeutic applications of our CCM technology, under a one year exclusive option granted to Schering by us.

#### GENE THERAPY PRODUCTS--CANCER

We are currently developing RB94, a gene therapy product for the treatment of cancer, under an exclusive worldwide license from the Baylor College of Medicine held by Titan's Ingenex subsidiary. RB94 combines a truncated variant (p94) of the RB gene, a tumor suppressor gene, with a viral vector. We believe the form of the RB protein encoded by the RB94 gene therapy product is more effective at causing suppression of tumor cells than the full-length RB protein, based on data demonstrating in vitro suppression of numerous tumor types tested to date, including tumors of the bladder, prostate, cervix, bone, breast, lung and fibrous tissue. In addition, preliminary experiments indicate the modified gene is effective in suppressing some cancer cell lines in vitro that continue to contain the functional native RB gene.

We are currently testing RB94 in pre-clinical studies of solid tumors in mouse models, and expect to conduct additional pre-clinical testing in preparation for pilot clinical trials.

In July 1999, we announced that our Ingenex subsidiary had entered into a cross-license agreement with Selective Genetics, under which we will receive exclusive rights to develop cancer therapies using Selective's proprietary cancer cell targeting technology in conjunction with RB94. We plan to combine these technologies to potentially enable systemic anti-cancer gene therapy.

We own 81% of the outstanding stock of Ingenex.

#### IMPLANTABLE DRUG DELIVERY SYSTEM

We are developing a sustained drug delivery technology with application in the treatment of a number of neurologic and psychiatric disorders in which conventional treatment is limited by variability of drug concentration in blood and poor patient compliance. The technology, which has been licensed from the Massachusetts Institute of Technology (MIT), consists of a polymeric drug delivery system that potentially can provide controlled drug release over extended periods (i.e., from three months to more than one year). The technology involves imbedding the drug of interest in a polymer, which is then implanted subcutaneously to provide systemic delivery as body fluids wash over the implant and the drug is released. This results in a constant rate of release similar to intravenous administration. We believe that such long-term, linear release characteristics are highly desirable, avoiding peak and trough level dosing that poses problems for many CNS and other therapeutic agents.

In July 1999, we announced that our ProNeura subsidiary had successfully completed pre-clinical experiments demonstrating long-term drug delivery using its polymeric drug delivery system. This study, which was supported by an SBIR phase I grant from the National Institutes of Health (NIH), demonstrated proof of concept in animal models using an approved antipsychotic agent, by delivering sustained therapeutic drug levels for periods of greater than four months, without any adverse effects.

We are conducting further pre-clinical evaluation of prototype products through contract research and manufacturing organizations, including evaluation of this drug delivery system for treatment of drug addiction. This project is currently supported by an SBIR grant.

We currently own approximately 79% of ProNeura.

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#### SPONSORED RESEARCH AND LICENSE AGREEMENTS

We are a party to several agreements with research institutions, companies, universities and other entities for the performance of research and development activities and for the acquisition of licenses relating to such activities.

#### ZOMARIL (ILOPERIDONE)

In January 1997, we acquired an exclusive worldwide license under United States and foreign patents and patent applications relating to the use of iloperidone for the treatment of psychiatric and psychotic disorders and analgesia. The Hoechst agreement provides for the payment of an up-front license fee in cash and stock of \$9.5 million, which we paid in 1997, as well as additional late stage milestone payments. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations." The Hoechst agreement also provides for the payment of royalties on net sales and requires us to satisfy certain other terms and conditions in order to retain its rights thereunder, all of which have been met to date. In November 1997, we granted a sublicense to Novartis under which Novartis will continue, at its expense, all further development of Zomaril and will make milestone payments to us equivalent to our milestone obligations to Hoechst, and will also pay Hoechst and us a royalty on net sales of the product.

#### IMMUNOTHERAPEUTICS

In May 1996, we acquired an exclusive, worldwide license under certain

United States and foreign patent and patent applications pursuant to a license agreement with the University of Kentucky Research Foundation. These patent and patent applications relate to the anti-idiotypic antibodies known as 3H1, 1A7 and 11D10 and their fragments, derivatives or analogs. The Kentucky agreement requires us to fund research at the University of Kentucky at amounts agreed to on an annual basis, for the five year period ending November 14, 2001. The Kentucky agreement provides for the payment of certain license fees as well as royalties based on net sales of licensed products by us or any sublicensees. We must also pay all costs and expenses incurred in obtaining and maintaining patents, and diligently pursue a vigorous development program for the products in order to maintain our license rights under the Kentucky agreement.

#### PIVANEX

We have acquired, from Bar-Ilan Research and Development Co. Ltd., an exclusive, worldwide license to an issued United States patent and certain foreign patents, and patent applications covering novel analogs of butyric acid owned by Bar-Ilan University and Kupat Hulim Health Insurance Institution. The Bar-Ilan agreement provides for the payment by us to Bar-Ilan of royalties based on net sales of products and processes incorporating the licensed technology, subject to minimum annual amounts commencing in 1995, as well as a percentage of any income derived from any sublicense of the licensed technology. We must also pay all costs and expenses incurred in patent prosecution and maintenance. Our minimum annual royalty for 1999 and thereafter is \$60,000.

We must also satisfy certain other terms and conditions set forth in the Bar-Ilan agreement in order to retain our license rights, including:

- the use of reasonable best efforts to bring any products developed under the Bar-Ilan agreement to market,
- the timely commencement of toxicology testing on small and large animals,
- the development of and compliance with a detailed business plan, and
- the timely payment of royalty fees.

All of the above conditions have been met to date.

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#### CELL THERAPY PRODUCTS

We acquired an exclusive, worldwide license under certain United States and foreign patent applications relating to the CCM technology pursuant to a research and license agreement with New York University (NYU). The NYU agreement provides for the payment of royalties based on net sales of products and processes incorporating the licensed technology, as well as a percentage of any income it receives from any sublicense thereof. We are also obligated to reimburse NYU for all costs and expenses incurred by NYU in filing, prosecuting and maintaining the licensed patents and patent applications.

We must satisfy certain other terms and conditions of the NYU agreement in order to retain our license rights. These include, but are not limited to, the use of best efforts to bring licensed products to market as soon as commercially practicable and to diligently commercialize such products thereafter. In January 2000, we granted a sublicense to Schering AG, under which Schering is funding the continued development of the licensed technology and potential commercialization of the product candidate Spheramine. We are also entitled to certain developmental milestone payments and royalty on net sales of the product.

In March 1996, we acquired an exclusive, worldwide license under United States and foreign patent applications relating to the Sertoli cell technology pursuant to a license agreement with the University of South Florida and the University of South Florida Research Foundation, Inc. The South Florida agreement provides for the payment of royalties based on net sales by us or any sublicensees of products and processes incorporating the licensed technology. We are also obligated to reimburse South Florida for all costs and expenses incurred by South Florida in filing, prosecuting and maintaining the licensed patent rights. We must satisfy certain other terms and conditions of the South Florida agreement in order to retain our full exclusive license rights. These include:

- the development and introduction into clinical trials of at least one product within three years of such date and
- an additional product every two years thereafter until commercialization of one product, and
- the timely payment of license and royalties.

If we failed to meet these development obligations, the University of South Florida may convert this exclusive license into a license specific to the product or products currently under development by us. We have been unable to meet these development obligations thus far and the University has not exercised its right to convert the license. We are in discussion with the University on the terms of the license.

#### GENE THERAPY PRODUCTS

In October 1992, we acquired an exclusive, worldwide license under United States and foreign patent applications assigned to Baylor College of Medicine relating to the RB gene, including its use in conferring senescence to tumors that form the basis of RB94. The Baylor license provides for royalties based on net sales of products and processes incorporating the licensed technology,

subject to certain minimum annual amounts and a percentage of sublicensing income arising from the license of such products and processes. Under the Baylor license, we must:

- use reasonable best efforts to bring any products developed under the Baylor license to market,
- develop and comply with a detailed business plan,
- fund research pursuant to the Baylor research agreement,
- commence a cancer therapy research program,
- make timely payment of royalty fees, and
- pay all costs and expenses incurred in patent filing, prosecution and maintenance.

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We are a party to several license agreements with the University of Illinois at Chicago which granted us the exclusive worldwide license under certain issued patents and patent applications, including those relating to methods for preventing multi-drug resistance and the human MDR1 gene. The exclusive nature of the Chicago licenses is subject in certain instances to certain reservations, including the use of all or part of the licensed technology for research, education and other non-commercial purposes. In addition, our rights under the MDR1 license are subject to a non-exclusive right granted to Glaxo-Wellcome to transfect cell lines with the MDR1 gene, and to use the transfectants for research purposes. Glaxo-Wellcome does not, however, have the right to sell or transfer the transfectants or any derivatives thereof, without the written authorization of the University of Illinois at Chicago.

We have acquired an exclusive license from MIT under an issued patent relating to the use of MDR genes for creating and selecting drug resistant mammalian cells. The MIT license is subject to prior grants of:

- an irrevocable, royalty-free, non-exclusive license granted to the United States government,
- non-exclusive licenses granted to Eli Lilly, Inc. and Genetics Institute, Inc. for research purposes, and
- non-exclusive, commercial licenses that may be granted pursuant to options granted to Eli Lilly and Genetics Institute to use aspects of the licensed technology but only to make products that do not incorporate genes claimed in the patent, proteins expressed by such genes or antibodies and inhibitors to such genes.

The MIT license provides for the payment of royalties based on net sales of products and processes incorporating the licensed technology, subject to certain minimum annual amounts, a percentage of sublicensing income arising from the license of such products and processes, and the issuance to MIT of Ingenex's common stock to MIT. Under the MIT license, we must also:

- use reasonable best efforts to bring any products developed under the MIT license to market,
- develop and comply with a detailed business plan and
- make timely payment of license and royalty fees.

#### IMPLANTABLE DRUG DELIVERY SYSTEM

In October 1995, we acquired from MIT an exclusive worldwide license to certain United States and foreign patents relating to the implantable drug delivery system. The MIT license required us to invest \$1.8 million in operating capital toward development of products and processes covered by the MIT license during the two years ended September 1997, of which approximately \$1.7 million has been invested to date. The exclusive nature of the MIT license was also subject to the condition that an Investigational New Drug (IND) application had been filed with the FDA by December 31, 1997. MIT has agreed to change the September 30 and December 31, 1997 dates to December 31, 1999. We are in discussion with MIT on further extension of these dates. We must also satisfy certain other usual terms and conditions set forth in the MIT license in order to retain our license rights thereunder, including payment of royalties based on sale of products and processes incorporating the licensed technology, as well as a percentage of income derived from sublicenses of the licensed technology.

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#### PATENTS AND PROPRIETARY RIGHTS

##### GENERAL

We have obtained rights to certain patents and patent applications relating to our proposed products and may, in the future, seek rights from third parties to additional patents and patent applications. We also rely on trade secrets and proprietary know-how, which we seek to protect, in part, by confidentiality agreements with employees, consultants, advisors, and others. For risks we face with respect to patents and proprietary rights, see "Risk Factors--We may be unable to protect our patents and proprietary rights."

##### ZOMARIL (ILOPERIDONE)

We are the exclusive licensee under the Hoechst license of issued and pending United States and foreign patents and patent applications related to

iloperidone, including its use in the treatment of psychiatric disorders, psychotic disorders and analgesia. Prosecution of various divisional and continuation applications and their foreign counterparts continues satisfactorily; although it is uncertain whether additional patents will be granted. We have no knowledge of any matters or issues which would appear to materially, negatively affect the validity and/or enforceability of the claims directed to iloperidone in either the issued patents and/or the associated counterparts that claim the priority of the U.S. patent applications.

#### IMMUNOTHERAPEUTICS

We are the exclusive licensee under the Kentucky agreement of certain United States and foreign patents and patent applications related to the anti-idiotypic antibodies known as 3H1, 1A7 and 11D10 and their fragments, derivatives or analogs. U.S. patents have been issued for the composition and method of use of the 1A7 antibody in April 1997 and the 3H1 antibody in November 1999. Prosecution of patents covering the 11D10 antibody continues satisfactorily, as does prosecution of various divisional and continuation applications and their foreign counterparts for all the antibodies, although it is uncertain whether additional patents will be granted. We have no knowledge of any matters or issues which would appear to materially, negatively affect the validity and/or enforceability of these patent rights.

#### PIVANEX

We are the exclusive licensee under the Bar-Ilan agreement of an issued United States patent and certain foreign patents, and patent applications covering novel analogs of butyric acid. Prosecution of various divisional and continuation applications and their foreign counterparts continues satisfactorily; although it is uncertain whether additional patents will be granted. We have no knowledge of any matters or issues which would appear to materially, negatively affect the validity and/or enforceability of these patent rights.

#### CELL THERAPY PRODUCTS

We are the exclusive licensee under the NYU license of United States and foreign patent applications relating to our cell-coated microcarrier technology. The Patent and Trademark Office has issued two U.S. patents on the core subject material underlying the NYU license. An Australian patent on the core material of a patent application underlying the NYU license was granted in May 1996. Prosecution of various divisional and continuation applications and their foreign counterparts continues satisfactorily, although it is uncertain whether additional patents will be granted.

We are the exclusive licensee under the South Florida agreement of United States and foreign patent and patent applications related to Sertoli cell technology. In December 1997, a U.S. patent was issued covering a method for treating Parkinson's disease by stereotaxic implantation of Sertoli cells directly into the affected area of the brain without the need for immunosuppression. In October 1998, a U.S. patent was issued covering a purified and isolated Sertoli cell-secretory cell hybrid. In November 1998, a U.S. patent

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was issued covering the use of Sertoli cells as a facilitator in the transplantation of therapeutic cells into the brain and spinal cord.

We are aware of issued U.S. patents and patent applications relating to use of Sertoli cells in transplantation filed by Research Corporation Technologies. These patents and applications may affect the ability to practice certain claims in the issued South Florida patents and pending patent applications. We and South Florida believe we may have certain rights in the Research Corporation patents. The exercise of these rights will depend on an inventorship determination, the outcome of which is uncertain at this time.

#### GENE THERAPY PRODUCT--RB94

We are the exclusive licensee under the Baylor license of United States and foreign patent applications relating to the RB gene, including its use in conferring senescence to tumors that form the basis of RB94. Prosecution of patents covering RB94 continues satisfactorily, as does prosecution of various divisional and continuation applications and their foreign counterparts, although it is uncertain whether additional patents will be granted.

We are aware of the existence of a prior art reference, European Patent Application 0 259 031 (EP 0 259 031), which discloses a DNA sequence corresponding to the sequence of the RB94 DNA molecule that is claimed in a U.S. patent licensed to us from Baylor College of Medicine. The Baylor patent also contains claims directed to specific expression vectors containing these DNA molecules. Although a patent is presumed valid, we cannot assure that the claims of the Baylor patent, if challenged, will not be found invalid. In any event, given that EP 0 259 031 relates to DNA molecules but not to methods of gene therapy, the existence of this reference alone would not, as a matter of U.S. law, be expected to affect the patentability of claims directed to the use of the RB94 DNA molecule in gene therapy for certain cancers, which gene therapy claims presently are pending in a related patent application licensed to us from Baylor.

#### IMPLANTABLE DRUG DELIVERY SYSTEM

We are the exclusive licensee under the MIT license to three United States and certain European patents relating to an implantable drug delivery system. We have no knowledge of any matters or issues which would appear to materially, negatively affect the validity and/or enforceability of these patent rights.

## COMPETITION

The pharmaceutical and biotechnology industries are characterized by rapidly evolving technology and intense competition. Many companies of all sizes, including major pharmaceutical companies and specialized biotechnology companies, are engaged in the development and commercialization of therapeutic agents designed for the treatment of the same diseases and disorders targeted by us. Many of our competitors have substantially greater financial and other resources, larger research and development staffs and more experience in the regulatory approval process. Moreover, potential competitors have or may have patents or other rights that conflict with patents covering our technologies.

With respect to the product candidate Zomaril, several products categorized as atypical antipsychotics are already on the market. Specifically, Risperidal sold by Janssen Pharmaceuticals, Zyprexa sold by Eli Lilly, Clozaril sold by Novartis and Seroquel sold by Zeneca. Competition among these companies is already intense and Zomaril, expected to be the fifth or sixth such product on the market, will face severe competition. The success of Zomaril will depend on how it can be differentiated from products already on the market on the basis of efficacy, side effect profile, cost, availability of formulations and dose requirements, among other things.

With regard to our immunotherapeutic products, we are aware of several companies involved in the development of cancer therapeutics that target the same cancers as the products under development by us. Such companies include Progenics, Biomira, AltaRex, Genentech, ImClone and Glaxo-Wellcome.

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With regard to our CNS technologies, we are aware of several new drugs for Parkinson's disease that are in pre-clinical and clinical development. Amgen is pursuing clinical trials in Parkinson's patients with glial derived neurotrophic factor (GDNF) and is collaborating with Medtronic, Inc. in its delivery to the CNS. In addition, several well-funded public and private companies are actively pursuing alternative cell transplant technologies, including Somatix Therapy Corporation, CytoTherapeutics Inc. and Diacrin, Inc. The technology under development by Diacrin, Inc. involves using antibodies to eliminate the need for immunosuppression when transplanting fetal pig cells into Parkinson's patients, and would directly compete with Spheramine.

With regard to our gene therapy products, we are aware of several development stage and established enterprises that are exploring the field of human gene therapy or are actively engaged in research and development in this area, including Genetix Pharmaceuticals, Inc. and two research organizations receiving funding from the NIH. We are aware of other commercial entities that have produced gene therapy products used in human trials. Further, it is expected that competition in this field will intensify.

With regard to our implantable drug delivery system, we are aware of an implantable therapeutic system being developed by ALZA Corporation. Additionally, companies such as Medtronic are developing implantable pumps that could be used to infuse drugs into the CNS.

In addition to the foregoing, colleges, universities, governmental agencies and other public and private research organizations are likely to continue to conduct research and are becoming more active in seeking patent protection and licensing arrangements to collect royalties for use of technology that they have developed, some of which may be directly competitive with the technologies being developed by us.

See "Risk Factors--We face intense competition."

## GOVERNMENT REGULATION

In order to obtain FDA approval of a new drug, a company generally must submit proof of purity, potency, safety and efficacy, among others. In most cases, such proof entails extensive clinical and pre-clinical laboratory tests.

The procedure for obtaining FDA approval to market a new drug involves several steps. Initially, the manufacturer must conduct pre-clinical animal testing to demonstrate that the product does not pose an unreasonable risk to human subjects in clinical studies. Upon completion of such animal testing, an IND application must be filed with the FDA before clinical studies may begin. An IND application consists of, among other things, information about the proposed clinical trials. Among the conditions for clinical studies and IND approval is the requirement that the prospective manufacturer's quality control and manufacturing procedures conform to current Good Manufacturing Practices (cGMP), which must be followed at all times. Once the IND is approved (or if FDA fails to act within 30 days), the clinical trials may begin.

Human clinical trials on drugs are typically conducted in three sequential phases, although the phases may overlap. Phase I trials typically consist of testing the product in a small number of healthy volunteers or in patients, primarily for safety in one or more doses. During Phase II, in addition to safety, dose selection and efficacy of the product is evaluated in up to several hundred patients and sometimes more. Phase III trials typically involve additional testing for safety and confirmation of efficacy in an expanded patient population at multiple test sites. The FDA may order the temporary or permanent discontinuation of a clinical trial at any time.

The results of the pre-clinical and clinical testing on new drugs are submitted to the FDA in the form of a New Drug Application (NDA). The NDA approval process requires substantial time and effort and there can be no assurance that any approval will be granted on a timely basis, if at all. The FDA may refuse to approve an NDA if applicable regulatory requirements are not satisfied. Product approvals, if granted,



may be withdrawn if compliance with regulatory standards is not maintained or problems occur following initial marketing.

The FDA may also require post-marketing testing and surveillance of approved products, or place other conditions on their approvals. These requirements could cause it to be more difficult or expensive to sell the products, and could therefore restrict the commercial applications of such products. Product approvals may be withdrawn if compliance with regulatory standards is not maintained or if problems occur following initial marketing. With respect to patented products or technologies, delays imposed by the governmental approval process may materially reduce the period during which we will have the exclusive right to exploit such technologies.

In addition, our gene therapy product candidate is subject to guidelines established by NIH, covering deliberate transfers of recombinant DNA into human subjects conducted within NIH laboratories or with NIH funds, which provide that such products must be approved by the NIH Director. The NIH has established the Recombinant DNA Advisory Committee which sets forth guidelines concerning approval of NIH-supported research involving the use of recombinant DNA. Although the jurisdiction of the NIH applies only when NIH-funded research or facilities are involved in any aspect of the protocol, the Advisory Committee encourages all gene transfer protocols to be submitted for its review. We intend to comply with the Advisory Committee and NIH guidelines.

We believe we are in compliance with all material applicable regulatory requirements. However, see "Risk Factors--We must comply with extensive government regulations" for additional risks we face regarding regulatory requirements and compliance.

#### FOREIGN REGULATORY ISSUES

Sales of pharmaceutical products outside the United States are subject to foreign regulatory requirements that vary widely from country to country. Whether or not FDA approval has been obtained, approval of a product by a comparable regulatory authority of a foreign country must generally be obtained prior to the commencement of marketing in those countries. Although the time required to obtain such approval may be longer or shorter than that required for FDA approval, the requirements for FDA approval are among the most detailed in the world and FDA approval generally takes longer than foreign regulatory approvals.

#### EMPLOYEES

We currently have 30 full-time employees. None of our employees are represented by a labor union. We have not experienced any work stoppages and consider our relations with our employees to be good. See "Risk Factors--We may not be able to retain our key management and scientific personnel."

#### RISK FACTORS

An investment in our stock involves various risks. You should carefully consider the following risk factors and other information incorporated by reference before deciding to purchase our shares.

**WE HAVE A HISTORY OF OPERATING LOSSES AND MAY NEVER BE PROFITABLE.** Through December 31, 1999, we had accumulated net losses since inception of approximately \$65.4 million. We will continue to incur losses for the foreseeable future as a result of the various costs associated with our research, development, financial, administrative, regulatory and management activities. We may never achieve or sustain profitability.

**OUR PRODUCTS ARE AT AN EARLY STAGE OF DEVELOPMENT AND MAY NOT BE SUCCESSFULLY DEVELOPED OR COMMERCIALIZED.** Our proposed products are at various stages of development, but all will require significant further

development, testing and regulatory clearances prior to commercialization. We are subject to the risk that some or all of our proposed products:

- will be found to be ineffective or unsafe;
- will not receive necessary regulatory clearances;
- will not be capable of being produced in commercial quantities at reasonable costs; or
- will not be successfully marketed.

We may experience unanticipated problems relating to product development, testing, regulatory compliance, manufacturing, marketing and competition, and our costs and expenses could exceed current estimates. We cannot predict whether we will successfully develop and commercialize any products.

**WE MUST COMPLY WITH EXTENSIVE GOVERNMENT REGULATIONS.** Our research, development, pre-clinical and clinical trial activities, and the manufacturing and marketing of any products which we may successfully develop are subject to an extensive regulatory approval process by the FDA and other regulatory agencies in the U.S. and other countries. The process of obtaining required regulatory approvals for drugs, including conducting pre-clinical and clinical testing, is lengthy, expensive and uncertain. Even after such time and expenditures, we may not obtain necessary regulatory approvals for clinical testing or for the manufacturing or marketing of any products. Regulatory approval may entail limitations on the indicated usage of a drug, which may

reduce the drug's market potential. Even if regulatory clearance is obtained, post-market evaluation of the products, if required, could result in restrictions on a product's marketing or withdrawal of the product from the market as well as possible civil or criminal sanctions. We depend on laboratories and medical institutions conducting pre-clinical studies and clinical trials to maintain both good laboratory and good clinical practices. We will also depend upon the manufacturers of any products we may successfully develop to comply with cGMP.

In addition, we and our collaborative partners may be subject to regulation under state and federal laws, including requirements regarding occupational safety, laboratory practices, environmental protection and hazardous substance control, and may be subject to other local, state, federal and foreign regulation. We cannot predict the impact of such regulation on us, although it could be material and adverse.

**WE MAY BE UNABLE TO PROTECT OUR PATENTS AND PROPRIETARY RIGHTS.** Our future success will depend to a significant extent on our ability to:

- enforce patent protection on our products and technologies;
- maintain trade secrets; and
- operate and commercialize products without infringing on the patents or proprietary rights of others.

Our patents may not afford any competitive advantages and may be challenged or circumvented by third parties. Further, patents may not issue on pending patent applications. Because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that before a potential product can be commercialized, any related patent may expire, or remain in existence for only a short period following commercialization, reducing any advantage of the patent.

Our business may be materially adversely affected if others independently develop similar technologies or duplicate any technology we develop. Furthermore, costly and time consuming litigation may be necessary to:

- enforce any of our patents;
- determine the scope and validity of the patent rights of others; or

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- respond to a legal action against us claiming damages for infringement of patent rights or other proprietary rights or seeking to enjoin commercial activities relating to the affected product or process.

The outcome of any such litigation is highly uncertain.

To the extent that consultants, key employees or other third parties apply technological information independently developed by them or by others to our proposed products, disputes may arise as to the proprietary rights to such information which may not be resolved in our favor. Most of our consultants are employed by or have consulting agreements with third parties and any inventions discovered by such individuals generally will not become our property. There is a risk that other parties may breach confidentiality agreements or that our trade secrets become known or independently discovered by competitors, which could adversely affect us.

**WE FACE INTENSE COMPETITION.** Competition in the pharmaceutical and biotechnology industries is intense and is expected to increase. We will face competition from numerous companies that currently market, or are developing, products for the treatment of the diseases and disorders we have targeted. Many of these entities have significantly greater research and development capabilities, experience in obtaining regulatory approvals and manufacturing, marketing, financial and managerial resources than us. We also compete with universities and other research institutions in the development of products, technologies and processes, as well as the recruitment of highly qualified personnel. Our competitors may succeed in developing technologies or products that are more effective than the ones we have under development or that render our proposed products or technologies noncompetitive or obsolete. In addition, certain of such competitors may achieve product commercialization or patent protection earlier than us.

**WE ARE DEPENDENT UPON OUR KEY COLLABORATIVE RELATIONSHIPS AND LICENSE AND SPONSORED RESEARCH AGREEMENTS.** As a small company with limited resources, we rely significantly on the resources of third parties to conduct research and development on our behalf. For example, our ability to ultimately derive revenues from Zomaril is almost entirely dependent upon Novartis conducting the Phase III trials and completing the regulatory approval process and implementing the marketing program necessary to commercialize Zomaril if the trials are successful. Our success in the future will depend, in part, on our ability to maintain existing collaborative relationships and to develop new collaborative relationships with third parties. Our license agreements relating to the in-licensing of technology generally require the payment of up-front license fees and royalties based on sales with minimum annual royalties, the use of due diligence in developing and bringing products to market, the achievement of funding milestones and, in some cases, the grant of stock to the licensor. Our sponsored research agreements generally require periodic payments on an annual or quarterly basis. Our failure to meet financial or other obligations under license or sponsored research agreements in a timely manner could result in the loss of our rights to proprietary technology or our right to have the applicable university or institution conduct research and development efforts.

**WE MAY BE DEPENDENT ON THIRD PARTIES TO MANUFACTURE AND MARKET ANY PRODUCTS**

WE MAY SUCCESSFULLY DEVELOP. To date, we have not introduced any products on the commercial market. We may not have the resources in the foreseeable future to allocate to the commercial manufacture or direct marketing of any proposed products. Collaborative arrangements may be pursued regarding the manufacture and marketing of any products that may be successfully developed. We may be unable to enter into additional collaborative arrangements to manufacture or market any proposed products or, in lieu thereof, establish our own manufacturing operations or sales force.

WE MAY NOT BE ABLE TO RETAIN OUR KEY MANAGEMENT AND SCIENTIFIC PERSONNEL. As a small company with a limited number of personnel, we are highly dependent on the services of Dr. Louis R. Bucalo, Chairman, President and Chief Executive Officer, as well as the other principal members of our management and scientific staff. The loss of one or more of such individuals could substantially impair ongoing research and

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development programs and could hinder our ability to obtain corporate partners. Our success depends in large part upon our ability to attract and retain highly qualified personnel. We compete in our hiring efforts with other pharmaceutical and biotechnology companies, as well as universities and nonprofit research organizations, and we may have to pay higher salaries to attract and retain personnel.

WE MAY NEED ADDITIONAL FINANCING. At March 15, 2000, we had approximately \$84.7 million of cash which we believe will enable us to fund our operations at least through 2003. We may need to seek additional financing after such time to continue our product development activities, and will be required to obtain substantial funding to commercialize any products that we may successfully develop. We do not have any funding commitments or arrangements other than our bank line of credit. If we are unable to enter into a corporate collaboration, complete a debt or equity offering, or otherwise obtain any needed financing, we will be required to reduce, defer or discontinue our product development programs. We may be required to obtain funds on terms that are not favorable to us and our stockholders.

FUTURE SALES OF OUR COMMON STOCK IN THE PUBLIC MARKET COULD ADVERSELY IMPACT OUR STOCK PRICE. Future sales of our common stock by existing stockholders pursuant to Rule 144 under the Securities Act, pursuant to an effective registration statement or otherwise, could have an adverse effect on the price of our securities.

ITEM 2. PROPERTIES

We have a four-year lease, expiring in June 2002, for approximately 10,000 square feet of office space in South San Francisco, California. We also have a five-year lease, expiring in October 2003, for approximately 4,200 square feet of space in Somerville, New Jersey.

ITEM 3. LEGAL PROCEEDINGS

We are not a party to any material legal proceedings.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

Not applicable

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PART II

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

(A) PRICE RANGE OF SECURITIES

Through November 20, 1998, our common stock traded on the Nasdaq SmallCap Market under the symbol TTNP. On November 23, 1998, our common stock began trading on the American Stock Exchange under the symbol TTF. The table below sets forth the high and low sales prices of our common stock as reported by the Nasdaq SmallCap Market and the American Stock Exchange for the periods indicated. For the period during which we were listed on the Nasdaq SmallCap Market, prices are based on quotations between dealers, do not reflect retail mark-up, mark-down or commissions, and do not necessarily represent actual transactions.

<TABLE>

<CAPTION>

	HIGH	LOW
<S>	-----<C>	-----<C>
Fiscal Year Ended December 31, 1999:		
First Quarter.....	\$ 4.750	\$3.250
Second Quarter.....	\$ 4.938	\$2.750
Third Quarter.....	\$13.563	\$4.313
Fourth Quarter.....	\$19.500	\$6.750
Fiscal Year Ended December 31, 1998:		
First Quarter.....	\$ 5.750	\$4.625
Second Quarter.....	\$ 6.125	\$3.813
Third Quarter.....	\$ 5.125	\$2.188
Fourth Quarter.....	\$ 3.938	\$1.844

</TABLE>

(B) APPROXIMATE NUMBER OF EQUITY SECURITY HOLDERS

The number of record holders of our common stock as of March 24, 2000 was approximately 202. Based on the last ADP search, we believe there are in excess

of 3,000 beneficial holders of the common stock.

(C) DIVIDENDS

We have never paid a cash dividend on our common stock and anticipate that for the foreseeable future any earnings will be retained for use in our business and, accordingly, do not anticipate the payment of cash dividends.

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ITEM 6. SELECTED FINANCIAL DATA

The selected financial data presented below summarizes certain financial data which has been derived from and should be read in conjunction with our more detailed financial statements and footnotes thereto included in the section beginning on page F-1. See also "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations."

<TABLE>  
<CAPTION>

	YEAR ENDED DECEMBER 31,				
	1999	1998	1997	1996	1995
	(IN THOUSANDS, EXCEPT PER SHARE AMOUNT)				
<S>	<C>	<C>	<C>	<C>	<C>
STATEMENT OF OPERATIONS DATA:					
Total revenues (1).....	\$ 337	\$ --	\$ 17,500	\$ 259	\$ 140
Operating expenses:					
Research and development.....	9,429	7,813	9,310	5,567	5,202
Acquired in-process research and development.....	136	--	9,500	--	686
General and administrative.....	2,794	3,708	6,514	5,264	3,658
Other income (expense)--net (2).....	726	907	8,415	(2,294)	(2,288)
Net (loss) income.....	\$(11,296)	\$(10,614)	\$ 592	\$(12,856)	\$(11,693)
Basic net (loss) income per share (pro forma in 1995).....	\$ (0.70)	\$ (0.81)	\$ 0.05	\$ (1.67)	\$ (1.74)
Diluted net (loss) income per share.....	\$ (0.70)	\$ (0.81)	\$ 0.04	\$ (1.67)	\$ (1.74)

</TABLE>

(1) Revenues for 1997 include \$17.4 million from fees related to the sublicense of Zomaril to Novartis.

(2) Other income for 1997 includes a gain of \$8.4 million from the sale of a research technology.

<TABLE>  
<CAPTION>

	AS OF DECEMBER 31,				
	1999	1998	1997	1996	1995
	(IN THOUSANDS)				
<S>	<C>	<C>	<C>	<C>	<C>
BALANCE SHEET DATA:					
Working capital (deficiency).....	\$ 45,112	\$ 10,215	\$ 23,642	\$ 12,174	\$ (6,232)
Total assets.....	47,362	12,228	25,594	16,366	4,732
Long-term debt.....	--	--	--	1,200	2,036
Accumulated deficit.....	(65,418)	(54,123)	(43,508)	(44,100)	(31,244)
Stockholders' equity (deficiency).....	44,302	9,406	17,178	11,411	(5,823)

</TABLE>

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

THE FOLLOWING DISCUSSION SHOULD BE READ IN CONJUNCTION WITH THE CONSOLIDATED FINANCIAL STATEMENTS AND NOTES THERETO APPEARING ELSEWHERE IN THIS REPORT.

THE FOLLOWING DISCUSSION CONTAINS CERTAIN FORWARD-LOOKING STATEMENTS, WITHIN THE MEANING OF THE "SAFE HARBOR" PROVISIONS OF THE PRIVATE SECURITIES REFORM ACT OF 1995, THE ATTAINMENT OF WHICH INVOLVES VARIOUS RISKS AND UNCERTAINTIES. FORWARD-LOOKING STATEMENTS MAY BE IDENTIFIED BY THE USE OF FORWARD-LOOKING TERMINOLOGY SUCH AS "MAY," "WILL," "EXPECT," "BELIEVE," "ESTIMATE," "ANTICIPATE," "CONTINUE," OR SIMILAR TERMS, VARIATIONS OF THOSE TERMS OR THE NEGATIVE OF THOSE TERMS. OUR ACTUAL RESULTS MAY DIFFER MATERIALLY FROM THOSE DESCRIBED IN THESE FORWARD-LOOKING STATEMENTS DUE TO, AMONG OTHER FACTORS, THE RESULTS OF ONGOING RESEARCH AND DEVELOPMENT ACTIVITIES AND PRE-CLINICAL TESTING, THE RESULTS OF CLINICAL TRIALS AND THE AVAILABILITY OF ADDITIONAL FINANCING THROUGH CORPORATE PARTNERING ARRANGEMENTS OR OTHERWISE.

SPHERAMINE-TM-, CEAVAC-REGISTERED TRADEMARK-, TRIAB-REGISTERED TRADEMARK-, TRIGEM-TM-, PIVANEX-TM- AND CCM-TM- ARE TRADEMARKS OF TITAN PHARMACEUTICALS, INC. ZOMARIL-TM- IS A TRADEMARK OF NOVARTIS PHARMA AG.

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OVERVIEW

We are a biopharmaceutical company developing proprietary therapeutics for the treatment of central nervous system disorders, cancer and other serious and life-threatening diseases.

Our most advanced product candidate, Zomaril (iloperidone), is a novel antipsychotic agent under development for the treatment of patients with schizophrenia. Zomaril is currently in Phase III clinical testing through a licensing and development agreement with Novartis Pharma AG. Also in the CNS arena, we are developing a unique cell based therapeutic, Spheramine, for the treatment of patients with Parkinson's disease. In November 1999, we received approval from the FDA to commence Phase I/II clinical testing with Spheramine. We have entered into a collaboration with Schering AG for the development, manufacture and commercialization of this treatment for Parkinson's disease, and Schering is funding the manufacturing, development and clinical studies of the product in exchange for worldwide commercialization rights. Our cancer portfolio includes three therapeutic monoclonal antibodies--CeaVac, TriAb, and TriGem--that are designed to stimulate a patient's immune system against cancer cells. CeaVac is currently being evaluated in a large multi-center double-blind placebo-controlled Phase II/ III clinical trial in patients with Stage IV metastatic colorectal cancer. TriAb is currently being evaluated in a double-blind placebo-controlled Phase II clinical study in patients with breast cancer. TriGem has completed initial Phase I testing in patients with melanoma, and we are pursuing later stage clinical trials through co-operative clinical oncology research groups. We are also currently conducting a Phase II clinical trial with Pivanex, a novel synthetic analog of butyric acid, for the treatment of patients with non-small cell lung cancer. Our other programs in pre-clinical development include a cancer gene therapy product and an implantable drug delivery technology.

RESULTS OF OPERATIONS FOR THE THREE YEARS ENDED DECEMBER 31, 1999, 1998, AND 1997

1999 COMPARED TO 1998

Since inception, we have devoted substantially all of our resources to product and technology development, clinical research, raising capital, and securing patent protection. At December 31, 1999, we had an accumulated deficit of \$65.4 million and working capital of \$45.1 million.

Revenues in 1999 of \$0.3 million consisted primarily of U.S. government grants. There were no revenues for 1998.

From inception through December 31, 1999, research and development expenses, including \$10.3 million in acquired in-process research and development costs, totaled \$64.5 million, and general and administrative expenses totaled \$24.8 million. Research and development expenses for 1999 were \$9.6 million, including \$0.1 million of acquired in-process research and development related to the acquisition of the minority interest of Theracell, compared to \$7.8 million for 1998, an increase of \$1.8 million, or 22%. The planned increase compared to 1998 was attributable to patient enrollment in the clinical trial with CeaVac in colorectal cancer and the final phases of the pre-clinical program for Spheramine in preparation for Phase I/II clinical trial. General and administrative expenses for 1999 were \$2.8 million compared to \$3.7 million for 1998, a decrease of \$0.9 million, or 25%. The decrease was attributable to ongoing efforts to contain non-research operating costs.

Other income for 1999 was \$0.7 million compared to \$0.9 million for 1998, a decrease of \$0.2 million, or 20%. Other income for 1999 and 1998 primarily consisted of interest income.

As a result of the foregoing, we had a net loss of \$11.3 million in 1999 compared to a net loss of \$10.6 million in 1998.

None of our products have been commercialized, and we do not expect to generate any revenue from product sales or royalties until at least 2002. With the advancement in clinical development of our products, we anticipate research and development expenses will increase in the near future, while general and administrative costs necessary to support such research and development activities will increase at a

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controlled rate. We will also seek to identify new technologies and/or product candidates for possible in-licensing or acquisition. Accordingly, we expect to incur operating losses for the foreseeable future. We cannot assure that we will ever achieve profitable operations.

1998 COMPARED TO 1997

There were no revenues for 1998 compared to \$17.5 million for 1997. Total revenues for 1997 were comprised of approximately \$17.4 million from fees related to the license of Zomaril to Novartis and \$0.1 million from U.S. government grants.

Research and development expenses for 1998 were \$7.8 million, as compared to \$18.8 million for 1997, a decrease of \$11.0 million, or 58%. 1997 expenses include \$9.5 million of acquired in-process research and development and other expenditures related to the acquisition of Zomaril, the development of which is now being funded by Novartis pursuant to the partnering agreement established by us and Novartis in November 1997. General and administrative expenses for 1998 were \$3.7 million compared to \$6.5 million for 1997, a decrease of \$2.8 million, or 43%. The decrease is attributable to the merger of a former subsidiary with and into Titan in August 1997, with a subsequent reduction in personnel and other expenses, as well as the reduction in overhead associated with the sale of a research technology by Ingenex in June 1997.

Other income for 1998 was \$0.9 million compared to \$8.4 million for 1997. Other income for 1998 includes interest income of \$0.8 million. Other income for 1997 includes a gain of \$8.4 million from the sale of a research technology, net

interest income of \$0.4 million, and a loss of \$0.6 million representing our share of the losses of Ansan Pharmaceuticals, Inc., our former subsidiary.

We had a net loss of \$10.6 million in 1998 compared to net income of \$0.6 million in 1997.

#### LIQUIDITY AND CAPITAL RESOURCES

We have funded our operations since inception primarily through our initial public offering and private placements of our securities, as well as proceeds from warrant and option exercises, corporate licensing and collaborative agreements, and government sponsored research grants. Cash has been used in operating activities primarily to fund operating expenses.

In March 2000, we completed a private placement of 1.2 million shares of our common stock for net proceeds of approximately \$38.9 million, after deducting fees and commissions and other expenses of the offering.

In October 1999, we called for the redemption on November 19, 1999 (the Redemption Date) of our outstanding Class A Warrants for cash at the redemption price of \$0.05 per warrant. Rather than surrendering the warrants for redemption, warrant holders had the option to purchase our common stock at a price of \$6.02 per share before the Redemption Date. The warrant call resulted in 7.1 million, or 99.4%, of our outstanding Class A Warrants being exercised with net proceeds to us of \$39.4 million, after deducting advisory fees and other related expenses.

In January 1999, we completed a private placement of 2.3 million shares of our common stock for net proceeds of \$5.8 million, after deducting fees and commissions and other expenses of the offering.

During 1997, we received \$25.9 million from license fees related to the Novartis sublicense and the sale of a research technology.

In January 1997, we entered into an exclusive license agreement with Hoechst Marion Roussel, Inc., (Hoechst) pursuant to which we received the worldwide patent rights and know-how related to the antipsychotic agent Zomaril. During 1997, we paid fees consisting of:

(i) \$4.0 million in cash, and

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(ii) \$5.5 million through the issuance of approximately 0.6 million shares of common stock (the Hoechst Shares.)

We were obligated to pay the difference between \$5.5 million and the net proceeds received by Hoechst upon the sale of the Hoechst Shares. In February 1998, Hoechst received net proceeds of \$2.5 million on the sale of the Hoechst Shares. Accordingly, in March 1998, we paid to Hoechst \$3.0 million.

We have entered into various agreements with research institutions, universities, and other entities for the performance of research and development activities and for the acquisition of licenses related to those activities. The aggregate commitments we have under these agreements, including minimum license payments, for the next 12 months is approximately \$1.5 million. Certain of the licenses provide for the payment of royalties by us on future product sales, if any. In addition, in order to maintain license and other rights while products are under development, we must comply with customary licensee obligations, including the payment of patent related costs and meeting project-funding milestones.

We expect to continue to incur substantial additional operating losses from costs related to continuation and expansion of product and technology development, clinical trials, and administrative activities. To preserve operating capital, we have chosen to strategically focus on development of our later stage products in clinical development, and at least temporarily reduce or eliminate spending on certain pre-clinical programs. We believe that we currently have sufficient working capital to sustain our planned operations at least through 2003.

Our cash and investment policy emphasizes liquidity and preservation of principal over other portfolio considerations. We select investments that maximize interest income to the extent possible given these two constraints. We satisfy liquidity requirements by investing excess cash in securities with different maturities to match projected cash needs and limit concentration of credit risk by diversifying our investments among a variety of high credit-quality issuers.

#### YEAR 2000 COMPLIANCE

In prior years, we discussed the nature and progress of our Year 2000 readiness. In late 1999, we completed remediation and testing of systems at minimal cost. As a result of those planning and implementation efforts, we experienced no significant disruptions in mission critical information technology and non-information technology systems and believe those systems successfully responded to the Year 2000 date change. We are not aware of any material problems resulting from the Year 2000 issue, either with our products under development, internal systems, or the products and services of third parties. We will continue to monitor our mission critical computer applications and our suppliers and vendors throughout the year to ensure that any latent Year 2000 matters that may arise are addressed promptly.

#### ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We have reviewed the requirements of Item 7A and have determined that these

disclosures are not applicable.

ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

The response to this item is included in a separate section of this Report. See "Index to Consolidated Financial Statements" on Page F-1.

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

Not applicable.

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ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF REGISTRANT.

The following table sets forth the names, ages and positions of our executive officers and directors.

<TABLE>

<CAPTION>

NAME	AGE	POSITION
<S>	<C>	<C>
Louis R. Bucalo, M.D. (1)	41	Chairman, President and Chief Executive Officer
Sunil Bhonsle	50	Executive Vice President and Chief Operating Officer
Richard C. Allen, Ph.D.	57	Executive Vice President
Robert E. Farrell	50	Executive Vice President and Chief Financial Officer
Victor Bauer, Ph.D.	64	Executive Director of Corporate Development and Director
Ernst-Gunter Afting, M.D., Ph.D. (2)	57	Director
Eurelio M. Cavalier	67	Director
Michael K. Hsu (2)	51	Director
Hubert Huckel, M.D. (1) (3)	68	Director
Marvin E. Jaffe, M.D. (1) (3)	63	Director
Konrad M. Weis, Ph.D. (1)	71	Director

</TABLE>

(1) Member of Executive Committee

(2) Member of Audit Committee

(3) Member of Compensation Committee

LOUIS R. BUCALO, M.D. is a founder of Titan and has served as our President and Chief Executive Officer since January 1993. Dr. Bucalo has served as a director of Titan since March 1993 and was elected Chairman of the Board of Directors in January 2000. From July 1990 to April 1992, Dr. Bucalo was Associate Director of Clinical Research at Genentech, Inc., a biotechnology company. Dr. Bucalo holds an M.D. from Stanford University and a B.A. in biochemistry from Harvard University.

SUNIL BHONSLE joined us as Executive Vice President and Chief Operating Officer in September 1995. Mr. Bhonsle served in various positions, including Vice President and General Manager-Plasma Supply and Manager-Inventory and Technical Planning, at Bayer Corporation from July 1975 until April 1995. Mr. Bhonsle holds an M.B.A. from the University of California at Berkeley and a B.Tech. in chemical engineering from the Indian Institute of Technology.

RICHARD C. ALLEN, PH.D., joined us as Executive Vice President in August 1995. From January 1995 until it was merged into Titan in March 1999, he also served as President and Chief Executive Officer of Theracell. From June 1991 until December 1994, Dr. Allen was Vice President and General Manager of the Neuroscience Strategic Business Unit of Hoechst-Roussel Pharmaceuticals, Inc. Dr. Allen holds a Ph.D. in medicinal chemistry and a B.S. in pharmacy from the Medical College of Virginia.

ROBERT E. FARRELL joined us as Executive Vice President and Chief Financial Officer in September 1996. Mr. Farrell was employed by Fresenius USA, Inc. from 1991 until August 1996 where he served in various capacities, including Vice President Administration, Chief Financial Officer and General Counsel. His last position was Corporate Group Vice President. Mr. Farrell holds a B.A. from University of Notre Dame and a J.D. from Hastings College of Law, University of California.

VICTOR J. BAUER, PH.D., has served as a director of Titan since November 1997. Dr. Bauer joined us in February 1997, and currently serves as Executive Director of Corporate Development. From April 1996 until its merger into Titan, Dr. Bauer also served as a director and Chairman of Theracell. From December 1992 until February 1997, Dr. Bauer was a self-employed consultant to companies in the pharmaceutical and biotechnology industries. Prior to that time, Dr. Bauer was with Hoechst-Roussel Pharmaceuticals Inc., where he served as President from 1988 through 1992.

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ERNST-GUNTER AFTING, M.D., PH.D., has served as a director of Titan since May 1996. Dr. Afting has served as the President of the GSF-National Center for Environment and Health, a government research center in Germany, since 1995. From 1984 until 1995, he was employed in various capacities by the Hoechst Group, serving as Divisional Head of the Pharmaceuticals Division of the Hoechst Group from 1991 to 1993 and as President and Chief Executive Officer of Roussel Uclaf (a majority stockholder of Hoechst AG) in Paris from 1993 until 1995.

EURELIO M. CAVALIER has served as a director of Titan since September 1998. From 1958 until his retirement in 1994, Mr. Cavalier was employed in various capacities by Eli Lilly & Co., serving as Vice President Sales from 1976 to 1982 and Group Vice President U.S. Pharmaceutical Business Unit from 1982 to 1993. Mr. Cavalier currently serves on the Boards of Directors of DataChem, Inc., ProSolv, Inc. and St. Vincent Hospital. He serves on the Advisory Board of COR Therapeutics and Indiana Heart Institute.

MICHAEL K. HSU has served as a director of Titan since March 1993. He is currently a General Partner of EndPoint Merchant Group, a merchant bank specializing in making investments into the healthcare and life science industries. Mr. Hsu served as Director-Corporate Finance of National Securities Corp. from November 1995 through April 1998, and from November 1994 through October 1995 served with Coleman and Company Securities in the same capacity. Mr. Hsu previously held various executive positions with Steinberg and Lyman Health Care Company, Ventana Venture Growth Fund, Asian Pacific Venture Group (Thailand) and D. Blech Life Science Ventures.

HUBERT HUCKEL, M.D. has served as a director of Titan since October 1995. From 1964 until his retirement in December 1992, Dr. Huckel served in various positions with The Hoechst Group. At the time of his retirement, he was Chairman of the Board of Hoechst-Roussel Pharmaceuticals, Inc., Chairman and President of Hoechst-Roussel Agri-Vet Company and a member of the Executive Committee of Hoechst Celanese Corporation. He currently serves on the Board of Directors of Thermogenesis, Corp. and Gynetics, Inc.

MARVIN E. JAFFE, M.D. has served as a director of Titan since October 1995. From 1988 until April 1994, Dr. Jaffe served as President of R.W. Johnson Pharmaceutical Research Institute where he was responsible for the research and development activities in support of a number of Johnson & Johnson companies, including ORTHO-McNeil Pharmaceuticals, ORTHO Biotech and CILAG. From 1970 until 1988, he was Senior Vice President of the Merck Research Laboratories. He currently serves on the Boards of Directors of Celltech Group, plc, Immunomedics, Inc., Matrix Pharmaceuticals, Inc., and Vanguard Medica, plc.

KONRAD M. WEIS, PH.D., has served as a director of Titan since March 1993. Dr. Weis is the former President and Chief Executive Officer of Bayer Corporation. Dr. Weis serves as a director of PNC Equity Management Company, Michael Baker Corporation, Visible Genetics, Inc. and Demegen, Inc.

Directors serve until the next annual meeting or until their successors are elected and qualified. Officers serve at the discretion of the Board of Directors, subject to rights, if any, under contracts of employment. See "Item 11. Executive Compensation--Employment Agreements."

#### DIRECTOR COMPENSATION

During 1999, non-employee directors are entitled to receive annual options to purchase 10,000 shares of common stock vesting quarterly as fees for the Board of Directors meetings, and are reimbursed for their expenses in attending such meetings. Directors are not precluded from serving us in any other capacity and receiving compensation therefor. In addition, directors are entitled to receive options (Director Options) pursuant to our 1998 Stock Option Plan. In August 1999, each of our current directors received Director Options to purchase 5,000 shares of common stock at an exercise price of \$9.063 per share.

We are a party to a consulting agreement with Dr. Afting pursuant to which he receives fees of \$7,000 annually.

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We are a party to a consulting agreement with Dr. Jaffe pursuant to which he receives fees of \$35,000 annually.

#### BOARD COMMITTEES AND DESIGNATED DIRECTORS

The Board of Directors has an Executive Committee, a Compensation Committee and an Audit Committee. The Executive Committee exercises all the power and authority of the Board of Directors in the management of Titan between Board meetings, to the extent permitted by law. The Compensation Committee makes recommendations to the Board concerning salaries and incentive compensation for our officers and employees and administers our stock option plans. The Audit Committee reviews the results and scope of the audit and other accounting related matters.

The Board of Directors met four times during 1999 and also took action by unanimous written consent. The Executive Committee met one time and also took action by unanimous written consent, and the Compensation Committee and Audit Committee each met one time. Each of our current directors attended at least 75% of the aggregate of (i) the meetings of the Board of Directors and (ii) meetings of any Committees of the Board on which such person served which were held during the time such person served.

#### COMPLIANCE WITH SECTION 16(A) OF THE SECURITIES EXCHANGE ACT OF 1934

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires our executive officers, directors and persons who beneficially own more than 10% of a registered class of our equity securities to file with the Securities and Exchange Commission initial reports of ownership and reports of changes in ownership of our common stock and other equity securities. Such executive officers, directors, and greater than 10% beneficial owners are required by SEC regulation to furnish us with copies of all Section 16(a) forms filed by such reporting persons.

Based solely on our review of such forms furnished to us and written



representations from certain reporting persons, we believe that all filing requirements applicable to our executive officers, directors and greater than 10% beneficial owners were complied with.

ITEM 11. EXECUTIVE COMPENSATION.

The following summary compensation table sets forth the aggregate compensation awarded to, earned by, or paid to the Chief Executive Officer and to executive officers whose annual compensation exceeded \$100,000 for the fiscal year ended December 31, 1999 (collectively, the "named executive officers") for services during the fiscal years ended December 31, 1999, 1998 and 1997:

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SUMMARY COMPENSATION TABLE

<TABLE>  
<CAPTION>

NAME AND PRINCIPAL POSITION	ANNUAL COMPENSATION		
	YEAR	SALARY	BONUS
<S>	<C>	<C>	<C>
Louis R. Bucalo .....	1999	\$222,013	\$ 0
President and Chief Executive Officer	1998	\$243,100	\$ 0
	1997	\$231,525	\$58,721 (1)
Sunil Bhonsle .....	1999	\$180,100	\$ 0
Executive Vice President and	1998	\$194,800	\$ 0
Chief Operating Officer	1997	\$190,991	\$68,370 (1)
Richard C. Allen .....	1999	\$180,475	\$ 0
Executive Vice President (2)	1998	\$197,800	\$ 0
	1997	\$193,984	\$77,096 (1)
Robert E. Farrell .....	1999	\$173,425	\$ 0
Executive Vice President and	1998	\$190,400	\$ 0
Chief Financial Officer	1997	\$186,665	\$18,500

</TABLE>

(1) Bonuses pertain to fiscal year 1995 and were paid in 1997.

(2) Dr. Allen also served as President and Chief Executive Officer of Theracell until Theracell merged with and into Titan in March 1999, and President and Chief Operating Officer of ProNeura during these periods. Until March 1999, Dr. Allen received his entire salary from Theracell. Dr. Allen's bonus in 1997 included \$20,000 paid by Titan.

OPTION GRANTS IN LAST FISCAL YEAR

The following table contains information concerning the stock option grants made to the named executive officers during the fiscal year ended December 31, 1999. No stock appreciation rights were granted to these individuals during such year.

<TABLE>  
<CAPTION>

NAME	NUMBER OF SECURITIES UNDERLYING OPTIONS GRANTED	INDIVIDUAL GRANT		
		% OF TOTAL OPTIONS GRANTED TO EMPLOYEES FISCAL YEAR	EXERCISE OR BASE PRICE (\$/SH) (1)	EXPIRATION DATE
<S>	<C>	<C>	<C>	<C>
Louis R. Bucalo.....	71,500	5.35%	\$ 3.625	01/04/2009
Louis R. Bucalo.....	28,000	2.09%	\$ 3.688	02/04/2009
Louis R. Bucalo.....	27,531	2.06%	\$ 0.080	03/10/2009
Louis R. Bucalo.....	5,000	0.37%	\$ 9.063	08/30/2009
Louis R. Bucalo.....	400,000	29.91%	\$12.750	11/24/2009
Sunil Bhonsle.....	55,600	4.16%	\$ 3.625	01/04/2009
Sunil Bhonsle.....	21,000	1.57%	\$ 3.688	02/04/2009
Sunil Bhonsle.....	184,000	13.76%	\$12.750	11/24/2009
Richard C. Allen.....	41,200	3.08%	\$ 3.625	01/04/2009
Richard C. Allen.....	21,000	1.57%	\$ 3.688	02/04/2009
Richard C. Allen.....	132,000	9.87%	\$12.750	11/24/2009
Robert E. Farrell.....	26,300	1.97%	\$ 3.625	01/04/2009
Robert E. Farrell.....	21,000	1.57%	\$ 3.688	02/04/2009
Robert E. Farrell.....	66,000	4.93%	\$12.750	11/24/2009

</TABLE>

(1) The exercise price may be paid in cash, in shares of common stock valued at the fair market value on the exercise date or through a cashless exercise procedure involving a same-day sale of the purchase shares. We may also finance the option exercise by loaning the optionee sufficient funds to pay the

exercise price for the purchased shares, together with any federal and state income tax liability incurred by the optionee in connection with such exercise.

AGGREGATE OPTION EXERCISES IN LAST FISCAL YEAR AND FISCAL YEAR-END OPTION VALUES

The following table sets forth information concerning option exercises and

option holdings for the fiscal year ended December 31, 1999 with respect to the named executive officers. No stock appreciation rights were exercised during such year or were outstanding at the end of that year.

<TABLE>  
<CAPTION>

NAME	SHARES ACQUIRED ON EXERCISE	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT FY-END		VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT FY-END (1)	
		EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE
<S>	<C>	<C>	<C>	<C>	<C>
Louis R. Bucalo.....	-0-	754,130	473,044 (2)	\$9,937,731	\$3,439,758 (2)
Sunil Bhonsle.....	-0-	403,678	231,621 (2)	\$5,590,912	\$1,863,912 (2)
Richard C. Allen.....	-0-	308,515	153,169 (2)	\$4,868,737	\$1,168,360 (2)
Robert E. Farrell.....	21,000	170,966	94,234	\$2,085,619	\$ 768,650

(1) Based on the fair market value of our common stock at year-end, \$19.000 per share, less the exercise price payable for such shares.

(2) A portion of employee's options are immediately exercisable. Upon the employee's cessation of service, we have the right to repurchase any shares acquired pursuant to said grant. Our right to repurchase shares expires in equal monthly installments over the five year period commencing on the date of grant. Options to which our repurchase right has not expired are deemed unexercisable for purposes of this table.

EMPLOYMENT AGREEMENTS

We are a party to an employment agreement with Dr. Bucalo expiring in February 2003 which provides for a base annual salary of \$210,000, subject to annual increases of 5% and bonuses of up to 25% at the discretion of the Board of Directors. In the event of the termination of the agreement with Dr. Bucalo, other than for reasons specified therein, we are obligated to make severance payments equal to his base annual salary for the greater of the balance of the term of the agreement or 18 months.

Employment agreements with each of Dr. Allen, Mr. Bhonsle and Mr. Farrell provide for a base annual salary of \$185,000 subject to automatic annual increases based on increases in the consumer price index, and bonuses of up to 20% at the discretion of the Board of Directors. In the event the employee's employment is terminated other than for "good cause" (as defined), we are obligated to make severance payments equal to the base annual salary for six months. All of the agreements contain confidentiality provisions.

In order to preserve our cash resources, we have determined, and the executives agreed, that the 1999 salaries of Drs. Bucalo and Allen and Messrs. Bhonsle and Farrell would be at \$219,000, \$178,000, \$178,000 and \$171,000, respectively.

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

The following table sets forth, as of March 24, 2000, certain information concerning the beneficial ownership of our common stock by (i) each stockholder known by us to own beneficially five percent or

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more of our outstanding common stock; (ii) each director; (iii) each executive officer; and (iv) all of our executive officers and directors as a group, and their percentage ownership and voting power.

<TABLE>  
<CAPTION>

NAME AND ADDRESS OF BENEFICIAL OWNER (1)	SHARES BENEFICIALLY OWNED (2)	PERCENT OF SHARES BENEFICIALLY OWNED
<S>	<C>	<C>
Louis R. Bucalo, M.D.....	1,167,685 (3)	4.5%
Ernst-Gunter Afting, M.D., Ph.D.....	24,000 (4)	*
Richard C. Allen, Ph.D.....	349,108 (5)	1.4%
Victor J. Bauer, Ph.D.....	65,449 (6)	*
Sunil Bhonsle.....	480,249 (7)	1.9%
Eurelio M. Cavalier.....	12,500 (4)	*
Robert E. Farrell.....	200,217 (8)	*
Michael K. Hsu.....	52,167 (9)	*
Hubert Huckel, M.D.....	136,500 (10)	*
Marvin E. Jaffe, M.D.....	29,661 (11)	*
Konrad M. Weis, Ph.D.....	76,401 (12)	*
Lindsay A. Rosenwald, M.D. ....	1,509,294 (13)	5.8%
787 Seventh Avenue, 48th Floor New York, NY 10019		
All executive officers and directors as a group (11) persons.....	2,593,937	10.1%

\* Less than one percent.

(1) Unless otherwise indicated, the address of such individual is c/o Titan Pharmaceuticals, Inc., 400 Oyster Point Boulevard, Suite 505, South San

Francisco, California 94080.

- (2) In computing the number of shares beneficially owned by a person and the percentage ownership of a person, shares of our common stock subject to options held by that person that are currently exercisable or exercisable within 60 days are deemed outstanding. Such shares, however, are not deemed outstanding for purposes of computing the percentage ownership of each other person. Except as indicated in the footnotes to this table and pursuant to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all shares of common stock.
- (3) Includes 867,454 shares issuable upon exercise of outstanding options.
- (4) Represents shares issuable upon exercise of outstanding options.
- (5) Includes 344,108 shares issuable upon exercise of outstanding options.
- (6) Includes 60,449 shares issuable upon exercise of outstanding options.
- (7) Includes 463,249 shares issuable upon exercise of outstanding options.
- (8) Includes 169,217 shares issuable upon exercise of outstanding options.
- (9) Includes 32,166 shares issuable upon exercise of outstanding options.
- (10) Includes 26,500 shares issuable upon exercise of outstanding options. Includes 100,000 shares held by a family partnership for which Dr. Huckel serves as general partner.
- (11) Includes 26,500 shares issuable upon exercise of warrants and outstanding options.
- (12) Includes 31,617 shares issuable upon exercise of outstanding options.
- (13) Includes (i) 45,042 shares held by each of June Street Corporation and Huntington Street Corporation, companies wholly-owned by Dr. Rosenwald; (ii) 580,853 shares held by a fund for which a wholly-owned company of Dr. Rosenwald's serves as investment manager; and (iii) an aggregate of

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296,377 shares held by two funds for which the same wholly-owned company serves as general partner. Does not include shares owned by Dr. Rosenwald's wife and his children's trusts, as to which he disclaims beneficial ownership. The foregoing information is derived from a Schedule 13G/A filed on behalf of Dr. Rosenwald on February 14, 2000.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS.

In June and July of 1997, Dr. Hubert Huckel, a director of Titan, received an aggregate of \$155,000 in consulting fees for services rendered in connection with our consummation of the Zomaril (iloperidone) license. Dr. Huckel was paid pursuant to a consulting agreement which provided for the payment of fees based upon a percentage of the consideration paid by us upon completion of a licensing transaction with Dr. Huckel's assistance. The consulting agreement expired by its terms in January 1998.

In January 1999, we completed a private placement of 2,254,545 shares of our common stock. Dr. Hubert Huckel and Mr. Michael Hsu, directors of Titan, participated in the offering by purchasing 100,000 and 5,272 shares, respectively.

We believe that all of the transactions set forth above were made on terms no less favorable to us than could have been obtained from unaffiliated third parties. We have adopted a policy that all future transactions, including loans, between us and our officers, directors, principal stockholders and their affiliates must be approved by a majority of the Board of Directors, including a majority of the independent and disinterested outside directors on the Board of Directors.

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PART IV

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

(A) 1. FINANCIAL STATEMENTS

An index to Consolidated Financial Statements appears on page F-1.

2. SCHEDULES

All financial statement schedules are omitted because they are not applicable, not required under the instructions or all the information required is set forth in the financial statements or notes thereto.

3. EXHIBITS

<TABLE>  
<CAPTION>

<C>	<C>	<S>
3.1	--	Restated Certificate of Incorporation of the Registrant (1)
3.2	--	Form of Amendment to Restated Certificate of Incorporation of the Registrant (1)
3.3	--	By-laws of the Registrant (1)
4.4	--	Form of Underwriter's Unit Purchase Option (1)

4.5	--	Form of Investor Rights Agreement between the Registrant and the holders of Series A and Series B Preferred Stock(1)
4.6	--	Form of Placement Agent's Unit Purchase Option(4)
4.7	--	Certificate of Designation of Series C Preferred Stock(8)
10.1	--	1993 Stock Option Plan(1)
10.2	--	1995 Stock Option Plan(1)
10.3	--	Employment Agreement between the Registrant and Louis Bucalo dated February 1, 1993, amended as of February 3, 1994(1)
10.4	--	Employment Agreement between Registrant and Richard Allen dated July 28, 1995(1)
10.5	--	Employment Agreement between Registrant and Sunil Bhonsle, dated August 6, 1995(1)
10.6	--	Form of Indemnification Agreement(1)
+10.9	--	MDR Exclusive License Agreement between Ingenex, Inc. (formerly Pharm-Gen Systems Ltd.) and the Board of Trustees of the University of Illinois dated May 6, 1992(1)
+10.11	--	License Agreement between Theracell, Inc. and New York University dated November 20, 1992, as amended as of February 23, 1993 and as of February 25, 1995(1)
+10.12	--	License Agreement between the Registrant and the Massachusetts Institute of Technology dated September 28, 1995(1)
+10.14	--	Exclusive License Agreement between Ingenex, Inc. and the Board of Trustees of the University of Illinois, dated July 1, 1994(1)
+10.15	--	Exclusive License Agreement between Ingenex, Inc. and the Board of Trustees of the University of Illinois, dated July 1, 1994(1)
+10.16	--	License Agreement between Ingenex, Inc. and the Massachusetts Institute of Technology, dated September 11, 1992(1)
+10.17	--	License Agreement between Ingenex, Inc. and Baylor College of Medicine, dated October 21, 1992(1)
10.18	--	Lease for Registrant's facilities(2)
+10.19	--	License Agreement between Theracell, Inc. and the University of South Florida dated March 15, 1996(3)
+10.20	--	License Agreement between Trilex Pharmaceuticals, Inc. (formerly Ascalon Pharmaceuticals, Inc.) and the University of Kentucky Research Foundation dated May 30, 1996(4)
+10.22	--	License Agreement between the Registrant and Hoechst Marion Roussel, Inc. effective as of December 31, 1996(5)

</TABLE>

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<TABLE>

<C>	<S>	
10.23	--	Employment Agreement between Registrant and Robert E. Farrell dated August 9, 1996(5)
10.24	--	Financing Agreement between the Registrant and Ansan Pharmaceuticals, Inc. dated March 21, 1997(6)
10.25	--	Agreement for Purchase and Sale of Assets between the Registrant and Pharmaceuticals Product Development, Inc. dated June 4, 1997(6)
+10.27	--	License Agreement between the Registrant and Bar-Ilan Research and Development Company Limited effective November 25, 1997(7)
10.28	--	License Agreement between the Registrant and Ansan Pharmaceuticals, Inc. dated November 24, 1997(7)
10.29	--	Stock Purchase Agreement between the Registrant and Ansan Pharmaceuticals, Inc. effective November 25, 1997(7)
+10.30	--	Sublicense Agreement between the Registrant and Novartis Pharma AG dated November 20, 1997(7)
10.31	--	1998 Stock Option Plan(9)
+10.32	--	License Agreement between the Registrant and Schering AG dated January 25, 2000.
23.2	--	Consent of Ernst & Young LLP, Independent Auditors.
27.1	--	Financial Data Schedule.

</TABLE>

+ Confidential treatment has been granted with respect to portions of this exhibit.

++ Confidential treatment has been requested with respect to portions of this exhibit.

(1) Incorporated by reference from the Registrant's Registration Statement on Form SB-2 (File No. 33-99386).

(2) Incorporated by reference from the Registrant's Annual Report on Form 10-KSB for the year ended December 31, 1995.

(3) Incorporated by reference from the Registrant's Quarterly Report on Form 10-QSB for the period ended March 31, 1996.

(4) Incorporated by reference from the Registrant's Registration Statement on Form SB-2 (File No. 333-13469).

(5) Incorporated by reference from the Registrant's Annual Report on Form 10-KSB for the year ended December 31, 1996.

(6) Incorporated by reference from the Registrant's Quarterly Report on Form 10-QSB for the period ended March 31, 1997.

- (7) Incorporated by reference from the Registrant's Registration Statement on Form S-3 (File No. 333-42367).
- (8) Incorporated by reference from the Registrant's Annual Report on Form 10-K for the year ended December 31, 1997.
- (9) Incorporated by reference from the Registrant's Annual Report on Form 10-K for the year ended December 31, 1998.
- (B) REPORTS ON FORM 8-K

On October 19, 1999, we filed a current report on Form 8-K to call for redemption of our outstanding Class A warrants. On December 3, 1999, we filed another current report on Form 8-K to announce the results of the warrant call.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

<i>&lt;TABLE&gt;</i> <i>&lt;CAPTION&gt;</i>	PAGE -----
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 Consolidated Financial Statements	
Consolidated Balance Sheets.....	F-3
Consolidated Statements of Operations.....	F-4
Consolidated Statement of Stockholders' Equity.....	F-5
Consolidated Statements of Cash Flows.....	F-8
Notes to Consolidated Financial Statements.....	F-9
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F-1  
REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

The Board of Directors and Stockholders  
Titan Pharmaceuticals, Inc.

We have audited the accompanying consolidated balance sheets of Titan Pharmaceuticals, Inc. (a development stage company) as of December 31, 1999 and 1998, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 1999 and for the period from July 25, 1991 (commencement of operations) to December 31, 1999. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Titan Pharmaceuticals, Inc. (a development stage company) at December 31, 1999 and 1998, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 1999 and for the period from July 25, 1991 (commencement of operations) to December 31, 1999, in conformity with accounting principles generally accepted in the United States.

/s/ Ernst & Young LLP

Palo Alto, California  
February 24, 2000  
except for Note 14, as to which the date is  
March 3, 2000

F-2  
TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED BALANCE SHEETS

<i>&lt;TABLE&gt;</i> <i>&lt;CAPTION&gt;</i>	DECEMBER 31, -----	
	1999	1998
<i>&lt;S&gt;</i>	<i>&lt;C&gt;</i>	<i>&lt;C&gt;</i>
ASSETS		

Current assets:		
Cash and cash equivalents.....	\$ 46,454,129	\$ 11,654,896
License fees and grants receivable.....	149,778	--
Prepaid expenses and other current assets.....	327,218	139,958
	-----	-----
Total current assets.....	46,931,125	11,794,854
Furniture and equipment, net.....	414,823	416,956
Other assets.....	15,958	15,783
	-----	-----
	\$ 47,361,906	\$ 12,227,593
	=====	=====

LIABILITIES AND STOCKHOLDERS' EQUITY

Current liabilities:		
Accounts payable.....	\$ 848,546	\$ 410,235
Accrued clinical trials expenses.....	437,572	653,218
Accrued compensation and related expenses.....	177,214	182,647
Accrued professional fees and other liabilities.....	355,641	334,123
	-----	-----
Total current liabilities.....	1,818,973	1,580,223
Commitments		
Minority interest--Series B preferred stock of Ingenex, Inc.....	1,241,032	1,241,032
Stockholders' Equity		
Preferred stock, \$0.001 par value per share; 5,000,000 shares authorized, issuable in series:		
Convertible Series C, 222,400 shares designated, 222,400 shares issued and outstanding, with an aggregate liquidation value of \$2,224, at December 31, 1999 and 1998.....	--	--
Convertible Series D, 606,061 shares designated, 606,061 shares issued and outstanding, with an aggregate liquidation value of \$30,303, at December 31, 1999 and 1998.....	5,000,000	5,000,000
Common stock, \$0.001 par value per share; 50,000,000 shares authorized at December 31, 1999 and 1998; 22,891,912 and 13,123,508 shares issued and outstanding at December 31, 1999 and 1998, respectively.....	98,696,741	52,291,369
Additional paid-in capital.....	6,524,247	6,524,204
Deferred compensation.....	(500,895)	(286,580)
Deficit accumulated during developmental stage.....	(65,418,192)	(54,122,655)
	-----	-----
Total Stockholders' equity.....	44,301,901	9,406,338
	-----	-----
	\$ 47,361,906	\$ 12,227,593
	=====	=====

</TABLE>

See accompanying notes.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED STATEMENTS OF OPERATIONS

<TABLE>

<CAPTION>

	YEAR ENDED DECEMBER 31,			PERIOD FROM COMMENCEMENT OF OPERATIONS (JULY 25, 1991) TO DECEMBER 31,
	1999	1998	1997	1999
<S>	<C>	<C>	<C>	<C>
License and grant revenue.....	\$ 337,254	\$ --	\$ 17,499,948	\$ 18,235,535
Operating expenses:				
Research and development.....	9,428,550	7,813,363	9,309,923	54,132,229
Acquired in-process research and development.....	135,785	--	9,500,000	10,321,785
General and administrative.....	2,794,682	3,707,874	6,513,603	24,844,505
	-----	-----	-----	-----
Total operating expenses.....	12,359,017	11,521,237	25,323,526	89,298,519
	-----	-----	-----	-----
Loss from operations.....	(12,021,763)	(11,521,237)	(7,823,578)	(71,062,984)
Other income (expense):				
Equity in loss of Ansan Pharmaceuticals, Inc.....	--	--	(590,853)	(2,046,939)
Gain on sale of technology.....	--	--	8,361,220	8,361,220
Interest income.....	755,777	847,581	666,419	3,440,519
Interest expense.....	--	(215)	(226,685)	(4,389,902)
Other (expense) income.....	(29,551)	59,507	205,024	234,980
	-----	-----	-----	-----
Other income, net.....	726,226	906,873	8,415,125	5,599,878
	-----	-----	-----	-----
(Loss) income before minority interest.....	(11,295,537)	(10,614,364)	591,547	(65,463,106)
Minority interest in losses of subsidiaries.....				
	--	--	64	44,914
	-----	-----	-----	-----

Net (loss) income.....	(11,295,537)	(10,614,364)	591,611	(65,418,192)
Deemed dividend upon conversion of preferred stock.....	--	--	--	(5,431,871)
Net (loss) income attributable to common Stockholders.....	<u>\$ (11,295,537)</u>	<u>\$ (10,614,364)</u>	<u>\$ 591,611</u>	<u>\$ (70,850,063)</u>
Net (loss) income per common share:				
Basic.....	<u>\$ (0.70)</u>	<u>\$ (0.81)</u>	<u>\$ 0.05</u>	
Diluted.....	<u>\$ (0.70)</u>	<u>\$ (0.81)</u>	<u>\$ 0.04</u>	
Weighted average shares used in computing net (loss) income per common share:				
Basic.....	<u>16,112,260</u>	<u>13,108,512</u>	<u>13,002,050</u>	
Diluted.....	<u>16,112,260</u>	<u>13,108,512</u>	<u>13,476,644</u>	

</TABLE>

See accompanying notes.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)  
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY

<TABLE>  
<CAPTION>

	PREFERRED STOCK		COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	DEFERRED COMPENSATION	ACCUMULATED DEFICIT
	SHARES	AMOUNT	SHARES	AMOUNT			
<S>	<C>	<C>	<C>	<C>	<C>	<C>	<C>
Net loss--Commencement of operations (July 25, 1991) to December 31, 1992.....	--	\$ --	--	\$ --	\$ --	\$ --	\$ (819,331)
Issuance of common stock to founders and investors.....			1,183,361	58,575			
Issuance of common stock to employees.....			210,232	813			
Issuance of Series A preferred stock, net.....	3,278,069	16,457,649					
Forgiveness of notes payable.....					40,000		
Net loss.....							(5,757,296)
Balances at December 31, 1993.....	3,278,069	16,457,649	1,393,593	59,388	40,000	--	(6,576,627)
Issuance of common stock to a consultant.....			14,926	88			
Increase in paid-in capital from issuance of common stock by Ingenex, Inc.....					128,805		
Net loss.....							(12,974,175)
Balances at December 31, 1994.....	3,278,069	16,457,649	1,408,519	59,476	168,805	--	(19,550,802)
Issuance of Series B preferred stock, net.....	244,043	1,143,794					
Increase in paid-in capital from issuance of warrants by Ingenex, Inc. in connection with bridge financing.....					600,000		
Increase in paid-in capital from issuance of warrants by Titan Pharmaceuticals, Inc. in connection with bridge financing.....					1,200,000		
Conversion of related parties notes payable and accrued interest into Series A preferred stock.....	256,130	1,306,329					
Increase in paid-in capital from issuance of common stock by Ansan Pharmaceuticals, Inc.....					3,777,548		
Deferred compensation related to stock options, net of amortization.....					440,000	(418,000)	
Issuance of common stock to acquire minority interest of Theracell, Inc.....			140,000	686,000			
Net loss.....							(11,693,454)
Balances at December 31, 1995.....	3,778,242	18,907,772	1,548,519	745,476	6,186,353	(418,000)	(31,244,256)

<CAPTION>

TOTAL STOCKHOLDERS' EQUITY

<S>	<C>
Net loss--Commencement of operations (July 25, 1991) to December 31, 1992.....	\$ (819,331)
Issuance of common stock to	

founders and investors.....	58,575
Issuance of common stock to employees.....	813
Issuance of Series A preferred stock, net.....	16,457,649
Forgiveness of notes payable.....	40,000
Net loss.....	(5,757,296)
<hr/>	
Balances at December 31, 1993.....	9,980,410
Issuance of common stock to a consultant.....	88
Increase in paid-in capital from issuance of common stock by Ingenex, Inc.....	128,805
Net loss.....	(12,974,175)
<hr/>	
Balances at December 31, 1994.....	(2,864,872)
Issuance of Series B preferred stock, net.....	1,143,794
Increase in paid-in capital from issuance of warrants by Ingenex, Inc. in connection with bridge financing.....	600,000
Increase in paid-in capital from issuance of warrants by Titan Pharmaceuticals, Inc. in connection with bridge financing.....	1,200,000
Conversion of related parties notes payable and accrued interest into Series A preferred stock.....	1,306,329
Increase in paid-in capital from issuance of common stock by Ansan Pharmaceuticals, Inc.....	3,777,548
Deferred compensation related to stock options, net of amortization.....	22,000
Issuance of common stock to acquire minority interest of Theracell, Inc.....	686,000
Net loss.....	(11,693,454)
<hr/>	
Balances at December 31, 1995.....	(5,822,655)

</TABLE>

See accompanying notes.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (CONTINUED)

<TABLE>

<CAPTION>

	PREFERRED STOCK		COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	DEFERRED COMPENSATION
	SHARES	AMOUNT	SHARES	AMOUNT		
<S>	<C>	<C>	<C>	<C>	<C>	<C>
Balances at December 31, 1995.....	3,778,242	18,907,772	1,548,519	745,476	6,186,353	(418,000)
Issuance of common stock in an initial public offering, net.....			3,680,000	15,850,357		
Conversion of Series A & Series B preferred stock to common as a result of the initial public offering.....	(3,778,242)	(18,907,772)	5,521,140	18,907,772		
Issuance of common stock upon exercise of stock options.....			16,520	10,664		
Issuance of common stock in a private placement, net.....			1,536,000	13,739,628		
Deferred compensation related to stock options.....					335,000	(335,000)
Issuance of common stock upon exercise of Class A Warrants.....			59,014	365,887		
Issuance of common stock upon exercise of placement agent warrants.....			37,844	--		
Amortization of deferred compensation.....						122,900
Net loss.....						
<hr/>						
Balances at December 31, 1996.....	--	--	12,399,037	49,619,784	6,521,353	(630,100)
Issuance of common stock in partial consideration for a technology license.....			594,595	--		
Issuance of common stock upon exercise of placement agent warrants.....			53,765	--		
Issuance of common stock upon exercise of stock options.....			5,117	3,012		
Issuance of Series C preferred stock in connection with the liquidation and merger of Trilex, Inc.....	222,400	--				
Issuance of Series D preferred						



stock.....	606,061	5,000,000				
Amortization of deferred compensation.....						171,760
Net income.....						
Balances at December 31, 1997.....	828,461	5,000,000	13,052,514	49,622,796	6,521,353	(458,340)

<CAPTION>

	ACCUMULATED DEFICIT	TOTAL STOCKHOLDERS' EQUITY
<S>	<C>	<C>
Balances at December 31, 1995.....	(31,244,256)	(5,822,655)
Issuance of common stock in an initial public offering, net.....		15,850,357
Conversion of Series A & Series B preferred stock to common as a result of the initial public offering.....		--
Issuance of common stock upon exercise of stock options.....		10,664
Issuance of common stock in a private placement, net.....		13,739,628
Deferred compensation related to stock options.....		--
Issuance of common stock upon exercise of Class A Warrants.....		365,887
Issuance of common stock upon exercise of placement agent warrants.....		--
Amortization of deferred compensation.....		122,900
Net loss.....	(12,855,646)	(12,855,646)
Balances at December 31, 1996.....	(44,099,902)	11,411,135
Issuance of common stock in partial consideration for a technology license.....		--
Issuance of common stock upon exercise of placement agent warrants.....		--
Issuance of common stock upon exercise of stock options.....		3,012
Issuance of Series C preferred stock in connection with the liquidation and merger of Trilex, Inc.....		--
Issuance of Series D preferred stock.....		5,000,000
Amortization of deferred compensation.....		171,760
Net income.....	591,611	591,611
Balances at December 31, 1997.....	(43,508,291)	17,177,518

</TABLE>

See accompanying notes.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (CONTINUED)

<TABLE>

<CAPTION>

	PREFERRED STOCK		COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	DEFERRED COMPENSATION	ACCUMULATED DEFICIT
	SHARES	AMOUNT	SHARES	AMOUNT			
<S>	<C>	<C>	<C>	<C>	<C>	<C>	<C>
Balances at December 31, 1997.....	828,461	5,000,000	13,052,514	49,622,796	6,521,353	(458,340)	(43,508,291)
Issuance of common stock upon exercise of stock options.....			70,994	212,982			
Release of guaranteed security value.....			--	2,455,591			
Increase in paid-in capital from issuance of common stock by Theracell, Inc.....					2,851		
Amortization of deferred compensation.....						171,760	
Net loss.....							(10,614,364)
Balances at December 31, 1998.....	828,461	\$5,000,000	13,123,508	\$52,291,369	\$6,524,204	\$(286,580)	\$(54,122,655)
Issuance of common stock in a private placement, net.....			2,254,545	5,797,159			
Increase in paid-in capital from issuance of common stock by Theracell, Inc.....					43		
Issuance of common stock to minority stockholders pursuant to the Theracell Merger.....			33,418	135,785			
Issuance of common stock upon exercise of stock options.....			147,225	468,001			

Issuance of common stock upon exercise of Class A Warrants, net.....			7,083,711	39,391,635			
Issuance of common stock upon exercise of placement agent warrants.....			125,056	--			
Issuance of common stock upon exercise of Unit Purchase Options.....			124,449	181,917			
Deferred compensation related to stock options.....				430,875		(430,875)	
Amortization of deferred compensation.....						216,560	
Net loss.....							(11,295,537)
Balances at December 31, 1999.....	828,461	\$5,000,000	22,891,912	\$98,696,741	\$6,524,247	\$(500,895)	\$(65,418,192)

<CAPTION>

	TOTAL STOCKHOLDERS' EQUITY
<S>	<C>
Balances at December 31, 1997.....	17,177,518
Issuance of common stock upon exercise of stock options.....	212,982
Release of guaranteed security value.....	2,455,591
Increase in paid-in capital from issuance of common stock by Theracell, Inc.....	2,851
Amortization of deferred compensation.....	171,760
Net loss.....	(10,614,364)
Balances at December 31, 1998.....	\$ 9,406,338
Issuance of common stock in a private placement, net.....	5,797,159
Increase in paid-in capital from issuance of common stock by Theracell, Inc.....	43
Issuance of common stock to minority stockholders pursuant to the Theracell Merger.....	135,785
Issuance of common stock upon exercise of stock options.....	468,001
Issuance of common stock upon exercise of Class A Warrants, net.....	39,391,635
Issuance of common stock upon exercise of placement agent warrants.....	--
Issuance of common stock upon exercise of Unit Purchase Options.....	181,917
Deferred compensation related to stock options.....	--
Amortization of deferred compensation.....	216,560
Net loss.....	(11,295,537)
Balances at December 31, 1999.....	\$ 44,301,901

</TABLE>

See accompanying notes.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED STATEMENTS OF CASH FLOWS

<TABLE>  
<CAPTION>

	YEAR ENDED DECEMBER 31,			PERIOD FROM COMMENCEMENT OF OPERATIONS (JULY 25, 1991) TO DECEMBER 31, 1999
	1999	1998	1997	
<S>	<C>	<C>	<C>	<C>
CASH FLOWS FROM OPERATING ACTIVITIES:				
Net (loss) income.....	\$(11,295,537)	\$(10,614,364)	\$ 591,611	\$(65,418,192)
Adjustments to reconcile net (loss) income to net cash provided by (used in) operating activities:				
Depreciation and amortization.....	390,286	293,610	385,503	2,528,041
Issuance of common stock to acquire in-process technology.....	--	--	5,500,000	5,500,000
Payment of guaranteed security value.....	--	(3,044,409)	--	(3,044,409)
Loss (gain) on sale of assets.....	13,411	13,016	(216,699)	(190,272)
Accretion of discount on indebtedness.....	--	--	--	2,290,910

Equity in loss of Ansan Pharmaceuticals, Inc.....	--	--	590,854	2,046,940
Other.....	--	--	--	(35,653)
Issuance of common stock to acquire minority interest of Theracell, Inc.....	135,785	--	--	821,785
Changes in operating assets and liabilities:				
Prepaid expenses, other receivables and assets.....	(337,213)	297,887	(60,474)	(492,954)
Receivable--Ansan Pharmaceuticals, Inc.....	--	--	117,881	--
Accounts payable.....	438,311	(405,214)	212,467	848,546
Other accrued liabilities.....	(199,561)	309,764	(214,525)	970,427
Net cash provided by (used in) operating activities.....	(10,854,518)	(13,149,710)	6,906,618	(54,174,831)
CASH FLOWS FROM INVESTING ACTIVITIES:				
Purchase of furniture and equipment, net.....	(185,004)	(298,099)	(78,864)	(1,315,101)
Purchases of short-term investments.....	--	--	(100,000)	(59,782,493)
Proceeds from sales of short-term investments.....	--	500,000	12,600,000	59,782,493
Other.....	--	--	--	(135,934)
Net cash provided by (used in) investing activities.....	(185,004)	201,901	12,421,136	(1,451,035)
CASH FLOWS FROM FINANCING ACTIVITIES:				
Issuance of common stock.....	45,838,712	212,982	3,012	76,080,468
Deferred financing costs.....	--	--	96,349	(713,899)
Issuance of preferred stock.....	--	--	5,000,000	22,601,443
Proceeds from debt obligations.....	--	--	--	11,356,500
Repayment of debt obligations.....	--	--	(1,289,313)	(8,691,500)
Proceeds from capital lease bridge financing.....	--	--	--	658,206
Payments of principal under capital lease obligation.....	--	--	(127,462)	(633,766)
Minority interest.....	--	--	--	1,241,032
Issuance of common stock by subsidiaries.....	43	2,851	--	176,546
Net cash provided by financing activities.....	45,838,755	215,833	3,682,586	102,075,030
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS.....	34,799,233	(12,731,976)	23,010,340	46,454,129
CASH AND CASH EQUIVALENTS AT BEGINNING OF PERIOD.....	11,654,896	24,386,872	1,376,532	--
CASH AND CASH EQUIVALENTS AT END OF PERIOD.....	\$ 46,454,129	\$ 11,654,896	\$24,386,872	\$ 46,454,129
SUPPLEMENTAL CASH FLOW DISCLOSURE				
Interest paid.....	\$ --	\$ 215	\$ 226,685	\$ 1,393,524
Conversion of related parties notes payable and accrued interest into Series A preferred stock.....	\$ --	\$ --	\$ --	\$ 1,306,329
Acquisition of furniture and equipment pursuant to capital lease.....	\$ --	\$ --	\$ --	\$ 595,236

</TABLE>

See accompanying notes.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

#### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

##### 1. ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

###### THE COMPANY AND ITS SUBSIDIARIES

We are a biopharmaceutical company developing proprietary therapeutics for the treatment of central nervous system disorders, cancer, and other serious and life threatening diseases. We conduct a portion of our operations through our two subsidiaries: Ingenex, Inc. and ProNeura, Inc. Another subsidiary, Trilex Pharmaceuticals, Inc., engaged in the development of cancer therapeutic vaccines utilizing anti-idiotypic antibody technology, was merged with and into Titan in August 1997 (the Trilex Merger). Theracell, Inc., a majority owned subsidiary engaged in the development of novel treatments for various neurologic disorders through the transplantation of neural cells directly into the brain, was merged with and into Titan in March 1999 (the Theracell Merger). Pursuant to the Theracell Merger, we issued 33,418 shares of our common stock to the minority stockholders of Theracell and recorded an in-process research and development expense of \$135,785 which equals the value of the common stock issued. We operate in one business segment.

###### INGENEX, INC.

Ingenex is engaged in the development of gene-based therapeutics for the treatment of cancer. In September 1994, Ingenex issued shares of its Series B convertible preferred stock to a third party for \$1,241,032, net of issuance costs. In June 1997, Ingenex sold a research technology and certain fixed assets for \$8,722,500 in cash and the assumption of certain capital lease liabilities and recognized a gain of \$8,361,220. At December 31, 1999, we owned 81% of Ingenex, assuming the conversion of all preferred stock to common stock.

###### PRONEURA, INC.

ProNeura was incorporated in October 1995 to engage in the development of cost effective, long-term treatment solutions to neurologic and psychiatric disorders through an implantable drug delivery system. At December 31, 1999, we owned 79% of ProNeura.

###### BASIS OF PRESENTATION

The accompanying consolidated financial statements include the accounts of Titan and our majority owned subsidiaries. All significant intercompany balances and transactions are eliminated.

Since inception, we have devoted substantially all of our resources to product and technology development, clinical research, raising capital, and securing patent protection. Accordingly, we are considered to be in the development stage. We have incurred losses since inception of \$65,418,192 and expect to incur losses, and require additional financial resources to achieve commercialization of our products.

USE OF ESTIMATES

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

1. ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)  
CASH AND CASH EQUIVALENTS

All highly liquid investments with original maturities of generally three months or less are considered to be cash equivalents. Cash equivalents include \$46,176,031 and \$10,505,429 in money market funds at December 31, 1999 and 1998, respectively. Money market funds invest primarily in securities with minimal interest rate risks and generally seek to maintain a constant \$1.00 per share net asset value.

FURNITURE AND EQUIPMENT

Furniture and equipment are recorded at cost and depreciated using the straight-line method over the estimated useful lives of the assets ranging from three to five years.

REVENUE RECOGNITION

License revenue is recognized ratably over the terms of the related license agreements. Nonrefundable license fees, under which we have no future performance obligations, are recognized upon receipt (see Note 11). Government grants which support our research effort in specific projects generally provide for reimbursement of approved costs as defined in the grant documents, and revenue is recognized when subsidized project costs are incurred.

SPONSORED RESEARCH COSTS

Research and development expenses under sponsored research arrangements are recorded when related services are performed, generally ratably over the period of the service agreements. License fees are expensed when paid, if we have no alternative future use of the technology.

NET (LOSS) INCOME PER SHARE

We calculate basic net loss per share using the weighted average common shares outstanding for the period. Diluted net income per share also includes the impact of other dilutive equity instruments, primarily preferred stock, options and warrants. For the years ended December 31, 1999 and 1998, we reported net losses and, therefore, other dilutive securities were not included since such inclusion would have been anti-dilutive. Had we been in a net income position, shares used in calculating diluted earnings per share for 1999 and 1998 would have included the effect of an additional 4,293,859 and 12,387,331 shares, respectively, related to our convertible preferred stock, options and warrants.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

1. ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

For the year ended December 31, 1997, we reported net income and, therefore, all potentially dilutive securities, with exercise prices less than the average market price of our common stock for the year, have been included in the calculation, as follows:

<TABLE>  
<CAPTION>

	1997
	-----
<S>	<C>
Weighted-average shares of common stock outstanding during the period.....	13,002,050
Effect of dilutive securities:	
- Employee stock options.....	284,951
- Unit purchase options.....	20,615
- Convertible preferred stock.....	104,110
- Warrants.....	64,918
	-----

Potentially dilutive securities..... 474,594

Shares used in computation of diluted earnings per share.... 13,476,644

</TABLE>

Potentially dilutive securities not included in the computation of diluted earnings per share for the year ended December 31, 1997 were:

- Options to purchase 1,066,799 shares of common stock at exercise prices greater than the average market price of our common stock and, therefore, the effect would have been anti-dilutive.
- Options to purchase 307,200 Units (one share of common stock and one Class A warrant) at \$10.42 per unit, which was greater than the average market price of our common stock and, therefore, the effect would have been anti-dilutive.
- Warrants to purchase 7,031,986 shares of common stock at \$6.20 per share, which was greater than the average market price of our common stock and, therefore, the effect would have been anti-dilutive.
- 222,400 shares of Series C convertible preferred stock (the Series C Preferred) as the milestones had not been met (see Note 6).

COMPREHENSIVE INCOME (LOSS)

Comprehensive income is comprised of net income and other comprehensive income. Other comprehensive income includes certain changes in equity that are excluded from net income (loss), such as unrealized gains and losses on investments. Comprehensive loss was the same as our net loss for the years ended December 31, 1999, 1998 and 1997.

RECENT ACCOUNTING PRONOUNCEMENTS

In June 1998, the Financial Accounting Standards Board issued SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities" (SFAS 133). SFAS 133, as amended, establishes accounting and reporting standards for derivative instruments, including certain derivative instruments embedded in other contracts, and for hedging activities. We are required to adopt SFAS 133 effective January 1, 2001.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

1. ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Because we currently do not hold any derivative instruments and do not engage in hedging activities, we do not believe that the adoption of SFAS 133 will have an impact on our financial position or results of operations.

In December 1999, the Securities and Exchange Commission issued Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements" (SAB 101), which, among other things, describes the SEC Staff's position on the recognition of certain non-refundable up-front fees received in connection with research collaborations. We are currently evaluating the applicability of SAB 101 to our existing collaboration agreements. Should we conclude that the approach described in SAB 101 is more appropriate, we will change our method of accounting effective January 1, 2000 to recognize such fees over the term of the related research agreement.

2. FURNITURE AND EQUIPMENT

Furniture and equipment consisted of the following at December 31:

<TABLE>  
<CAPTION>

	1999	1998
	-----	-----
<S>	<C>	<C>
Furniture and office equipment.....	\$ 199,049	\$ 233,433
Laboratory equipment.....	323,754	250,459
Computer equipment.....	110,805	206,344
	-----	-----
Less accumulated depreciation.....	633,608	690,236
	(218,785)	(273,280)
	-----	-----
Furniture and equipment, net.....	\$ 414,823	\$ 416,956
	=====	=====

</TABLE>

Depreciation expense was \$173,726, \$121,850 and \$213,743 for the years ended December 31, 1999, 1998 and 1997, respectively.

3. SPONSORED RESEARCH AND LICENSE AGREEMENTS

We have entered into various agreements with research institutions, universities, and other entities for the performance of research and development activities and for the acquisition of licenses related to those activities. Expenses under these agreements totaled \$1,285,265, \$1,561,981 and \$2,104,105 in the years ended December 31, 1999, 1998 and 1997, respectively.

At December 31, 1999, the annual aggregate commitments we have under these agreements, including minimum license payments, are as follows:

<i>&lt;TABLE&gt;</i>	<i>&lt;C&gt;</i>
<i>&lt;S&gt;</i>	
2000.....	\$1,486,836
2001.....	518,000
2002.....	428,000
2003.....	428,000
2004.....	428,000
	-----
	\$3,288,836
	=====

*</TABLE>*

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

3. SPONSORED RESEARCH AND LICENSE AGREEMENTS (CONTINUED)

After 2004, we must make annual payments aggregating \$428,000 per year to maintain certain licenses. Certain licenses provide for the payment of royalties by us on future product sales, if any. In addition, in order to maintain these licenses and other rights during product development, we must comply with various conditions including the payment of patent related costs and obtaining additional equity investments.

4. LEASES

We lease facilities under operating leases that expire at various dates through October 2003. Rent expense was \$331,048, \$328,065 and \$397,133 for years ended December 31, 1999, 1998 and 1997, respectively.

The following is a schedule of future minimum lease payments at December 31, 1999:

<i>&lt;TABLE&gt;</i>	<i>&lt;C&gt;</i>
<i>&lt;S&gt;</i>	
2000.....	380,815
2001.....	415,320
2002.....	256,208
2003.....	78,413
	-----
	\$1,130,756
	=====

*</TABLE>*

5. BANK LINE OF CREDIT

We have available a bank line of credit that expires in March 2000, under which \$5,000,000 is available. The agreement contains covenants that require us to maintain certain financial ratios. At December 31, 1999, we had no outstanding balance under this line of credit and were in compliance with the required covenants.

6. STOCKHOLDERS' EQUITY

PREFERRED STOCK

In connection with the Trilex Merger in October 1997, we issued 222,400 shares of Series C Preferred to certain members of the Trilex management team and to certain consultants of Trilex. The Series C Preferred automatically converts to common stock, on a one-to-one basis, only if certain development milestones are achieved, within certain timeframes. Holders of Series C Preferred are entitled to receive dividends, when, as and if declared by the board of directors ratably with any declaration or payment of any dividend on our common stock or other junior securities. The Series C Preferred has a liquidation preference equal to \$0.01 per share. No value was assigned to the Series C Preferred in the accompanying financial statements.

In November 1997, we issued to Novartis Pharma AG (Novartis) 606,061 shares of Series D convertible preferred stock (the Series D Preferred), pursuant to an agreement by which we granted certain technology rights to Novartis (see Note 11). The Series D Preferred were issued pursuant to a stock purchase agreement which provides for conversion of such shares into our common stock at the option of Novartis at any time after January 29, 1999. The conversion price equals the market price during a specified period within the first two fiscal quarters of 1999 and is subject to a floor of \$7.50 and a ceiling of

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

6. STOCKHOLDERS' EQUITY (CONTINUED)

\$9.00. Accordingly, upon conversion of the Series D Preferred, we would issue a minimum of 555,555 and a maximum of 666,667 shares of common stock (see Note 14).

COMMON STOCK

In January 1996, we issued 3,200,000 units at \$5.00 per unit in our initial

public offering (IPO). Each unit consisted of one share of common stock and one redeemable Class A warrant. The net proceeds (after underwriter's discount and expenses, and other costs associated with the IPO) totaled \$13,690,357. At the closing of the offering, all of our then outstanding Series A and Series B preferred stock automatically converted into common stock. In February 1996, we issued an additional 480,000 units, at \$5.00 per unit, in accordance with the underwriter's over-allotment option. The net proceeds of the underwriter's over-allotment option totaled \$2,160,000.

In July and August 1996, we completed a private placement (the Private Placement) of 1,536,000 units, each unit consisting of one share of common stock and one redeemable Class A warrant, for net proceeds of \$13,739,628, after deducting placement agent fees and other expenses of the private placement.

In January 1999, we completed a private placement of 2,254,545 shares of our common stock for net proceeds of \$5,797,159, after deducting fees and commissions and other expenses of the offering.

#### WARRANTS

During 1996 in connection with the IPO, repayment of a bridge financing and the Private Placement, we issued 7,091,000 Class A Warrants. They entitle the holder to purchase one share of common stock at an adjusted exercise price of \$6.02 at any time up to January 2001. The warrants are subject to redemption at \$0.05 per warrant on 30 days written notice if the closing bid price of our common stock averages in excess of \$9.10 per share for 30 consecutive trading days ending within 15 days of the date of notice of redemption.

In October 1999, upon satisfying the conditions for warrant redemption, we called for the redemption on November 19, 1999 (the Redemption Date) of our outstanding Class A Warrants for cash at the redemption price of \$0.05 per warrant. Rather than surrendering the warrants for redemption, warrant holders had the option to purchase our common stock at a price of \$6.02 per share before the Redemption Date. The warrant call resulted in 7,083,711 of our then outstanding Class A Warrants being exercised with net proceeds to us totaled \$39,391,635, after deducting advisory fee and other related expenses.

#### UNIT PURCHASE OPTIONS

In connection with our IPO, the underwriter was granted an option (Unit Purchase Option) to acquire 320,000 additional units at a price of \$6.50 per unit, and in connection with the Private Placement, the placement agent was granted a Unit Purchase Option to purchase an additional 321,065 units, as adjusted, at an adjusted exercise price of \$9.97 per unit. Each unit consists of one share of common stock and one Class A warrant. In 1999, 247,573 units were exercised, primarily on a cashless basis, resulting in the issuance of 124,449 shares of our common stock.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

#### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

#### 6. STOCKHOLDERS' EQUITY (CONTINUED)

##### SHARES RESERVED FOR FUTURE ISSUANCE

As of December 31, 1999, shares of common stock reserved by us for future issuance consisted of the following:

<TABLE> <S>	<C>
Warrants related to certain private financing transactions in 1995.....	164,856
Unit purchase options (including underlying Class A warrants).....	790,930
Stock options.....	3,680,618
Preferred stock.....	889,067
	-----
	5,525,471
	=====

</TABLE>

#### 7. STOCK OPTION PLANS

Under our 1993 Option Plan, as amended and restated, 558,073 shares of common stock were reserved and authorized for issuance upon exercise of stock options. In November 1995, we adopted the 1995 Stock Option Plan under which 1,300,000 shares of our common stock were reserved and authorized for issuance. In June 1998, we adopted the 1998 Stock Option Plan under which 1,000,000 shares were reserved and authorized for issuance. The option plans provide for the grant of incentive stock options to employees, and non-qualified stock options to employees, directors and consultants. Options granted under the option plans generally expire no later than ten years from the date of grant, except when the grantee is a 10% shareholder, in which case the maximum term is five years from the date of grant. Options generally vest at the rate of one fourth after one year from the date of grant and the remainder ratably over the subsequent three years, although options with different vesting terms are granted from time-to-time. The exercise price of incentive stock options, non-qualified stock options and options granted to 10% stockholders, shall be at least 100%, 85% and 110%, respectively, of the fair market value of the stock on the date of grant.

Options granted under the 1993 Option Plan are exercisable immediately upon grant, however, the shares issuable upon exercise of the options are subject to

repurchase by us. Such repurchase rights will lapse over a period of up to five years from the date of grant. At December 31, 1999, 24,064 shares of common stock underlying the options would be subject to repurchase. No further options will be granted under the 1993 Option Plan.

The 1995 and 1998 Option Plans provide for the automatic grant of non-qualified stock options to our directors who are not 10% stockholders (Eligible Directors). Each Eligible Director will be granted an option to purchase 10,000 shares of common stock on the date that such person is first elected or appointed a director. In addition, each Eligible Director generally receives an annual automatic grant of an option to purchase 5,000 shares of common stock on the day immediately following the date of each annual stockholders meeting, as long as such director is a member of the Board of Directors.

In November 1999 and in connection with the warrant call, we granted 813,000 non-qualified stock options outside of our stock option plans to our executive officers, at an exercise price of \$12.75, vesting equally over 36 months from the date of grant.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

7. STOCK OPTION PLANS (CONTINUED)

Activity under the 1993, 1995, and 1998 Option Plans, as well as non-plan activity are summarized below:

<TABLE>  
<CAPTION>

	SHARES AVAILABLE FOR GRANT	NUMBER OF OPTIONS OUTSTANDING	WEIGHTED AVERAGE EXERCISE PRICE
<S>	<C>	<C>	<C>
Balance at December 31, 1996.....	219,365	1,402,306	\$ 7.90
Increase in shares reserved.....	452,475	--	--
Options granted.....	(588,100)	588,100	\$ 3.46
Options exercised.....	--	(5,117)	\$ 0.59
Options cancelled.....	39,563	(168,256)	\$ 3.99
	-----	-----	
Balance at December 31, 1997.....	123,303	1,817,033	\$ 6.88
Increase in shares reserved.....	1,000,000	--	--
Options granted.....	(1,102,135)	1,102,135	\$ 6.82
Options exercised.....	--	(70,994)	\$ 3.00
Options cancelled.....	846,697	(923,919)	\$10.10
	-----	-----	
Balance at December 31, 1998.....	867,865	1,924,255	\$ 5.45
Increase in shares reserved.....	225,888	--	--
Options granted.....	(783,788)	1,596,788	\$ 8.12
Options exercised.....	--	(147,225)	\$ 3.32
Options cancelled.....	66,647	(69,812)	\$ 4.84
	-----	-----	
Balance at December 31, 1999.....	376,612	3,304,006	\$ 6.82
	=====	=====	

</TABLE>

The 1995 and 1998 Option Plans allow for stock options issued as the result of a merger or consolidation of another entity, including the acquisition of minority interest of our subsidiaries, to be added to the maximum number of shares provided for in the plan (Substitute Options). Consequently, Substitute Options are not returned to the shares reserved under the plan when cancelled. During 1999, 1998 and 1997, 3,165, 72,296 and 123,576 Substitute Options, respectively, were cancelled and are included as shares expired during the year.

In June 1998, we adopted an Option Exchange Program whereby certain employee stock options which were previously granted at exercise prices greater than \$10.75 per share were exchanged for new options with an exercise price of \$7.50 per share. Notwithstanding the original vesting schedule, all exchanged options vested as of the exchange date are considered vested under the new options and the unvested portion will vest ratably over 24 months and have a term of approximately eight years. A total of 820,135 options with a weighted-average exercise price of \$10.91 were exchanged and reflected as grants and cancellations in the above summary table.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

7. STOCK OPTION PLANS (CONTINUED)

Options for 1,167,265 and 713,545 shares were exercisable at December 31, 1998 and 1997, respectively. The options outstanding at December 31, 1999 have been segregated into three ranges for additional disclosure as follows:

<TABLE>  
<CAPTION>

RANGE OF EXERCISE PRICES	OPTIONS OUTSTANDING			OPTIONS EXERCISABLE	
	NUMBER OUTSTANDING	WEIGHTED AVERAGE REMAINING	WEIGHTED AVERAGE EXERCISE PRICE	NUMBER EXERCISABLE	WEIGHTED AVERAGE
		CONTRACTUAL LIFE			EXERCISE PRICE



<S>	<C>	<C>	<C>	<C>	<C>	<C>
\$0.080 - \$4.140.....	1,093,483	7.41	\$ 2.34	934,266	\$ 2.25	
\$4.344 - \$7.500.....	1,291,423	8.10	\$ 6.89	1,090,800	\$ 6.95	
\$8.500 - \$12.750.....	877,100	9.85	\$12.49	32,582	\$11.64	
	=====			=====		
\$0.080 - \$12.750.....	3,262,006	8.33	\$ 6.87	2,057,648	\$ 4.89	
	=====			=====		

</TABLE>

In addition, Ingenex has a stock option plan under which options to purchase common stock of Ingenex have been and may be granted.

8. FAIR VALUE OF STOCK OPTIONS

We have elected to follow APB 25 in accounting for our stock options because the alternative fair value method of accounting prescribed by SFAS 123 requires the use of option valuation models that were not developed for use in valuing employee stock options. Under APB 25, no compensation expense is recognized when the exercise price of our stock options equals the market price of the underlying stock on the date of grant.

Pro forma net loss and net loss per share information required by SFAS 123 has been determined as if we had accounted for our employee stock options granted subsequent to 1994 under the fair value method of SFAS 123. The fair value for these options was estimated at the date of grant using a Black-Scholes option pricing model with the following assumptions for 1999, 1998 and 1997: weighted-average volatility factor of 0.8, 0.7, and 0.7, respectively; no expected dividend payments; weighted-average risk-free interest rates in effect of 6.0%, 5.5%, and 5.5%, respectively; and a weighted-average expected life of 2.52, 2.86, and 3.79, respectively.

The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions including the expected stock price volatility. Because our employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of our employee stock options.

Based upon the above methodology, the weighted-average fair value of options granted during the years ended December 31, 1999, 1998 and 1997 was \$4.83, \$1.87, and \$1.90, respectively.

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

8. FAIR VALUE OF STOCK OPTIONS (CONTINUED)

For purposes of SFAS 123 disclosures, the estimated fair value of the options is amortized to expense over the options' vesting period. Our pro forma information is as follows:

<TABLE>  
<CAPTION>

<S>	DECEMBER 31,		
	1999	1998	1997
Pro forma net loss attributable to common stockholders.....	\$ (13,487,062)	\$ (11,354,801)	\$ (2,065,259)
Pro forma net loss per share.....	\$ (0.84)	\$ (0.87)	\$ (0.16)

The consolidated pro forma net loss calculated above includes the estimated fair value of the options granted by our subsidiaries in 1999, 1998 and 1997, calculated on substantially equivalent assumptions.

9. EQUITY IN LOSS OF ANSAN PHARMACEUTICALS, INC.

Ansan Pharmaceuticals, Inc. was a majority owned consolidated subsidiary until its public offering in August 1995, at which time it became an equity method investee of Titan.

In November 1997, the stockholders of Ansan approved an Agreement and Plan of Reorganization and Merger between Ansan and Discovery Laboratories, Inc., pursuant to which Discovery was merged with and into Ansan. Pursuant to the merger, we acquired an exclusive worldwide license to Ansan's butyrate compounds for anti-cancer and certain other indications in exchange for our payment of a 2% royalty on net sales and transfer to Ansan of all of our equity holdings in Ansan. Upon completion of the merger, Ansan repaid approximately \$1,170,000 of outstanding indebtedness to us.

Our share of Ansan is net loss of \$590,853 for the period ended December 31, 1997 represents the entire carrying value of the investment at December 31, 1996 as the allocable portion of Ansan's loss exceeded the book value of the investment.

10. AGREEMENT WITH HOECHST MARION ROUSSEL

In January 1997, we entered into an exclusive license agreement with Hoechst Marion Roussel, Inc. (Hoechst). The agreement gave us a worldwide license to Hoechst's patent rights and know-how related to the antipsychotic agent iloperidone, including the ability to develop, use, sublicense, manufacture and sell products and processes claimed in the patent rights. Pursuant to the license, we paid, during 1997, a fee of \$9,500,000, consisting of: (i) \$4,000,000 in cash, and (ii) \$5,500,000 through the issuance of 594,595 shares of common stock (the Hoechst Shares.) We were obligated to pay to Hoechst the difference between \$5,500,000 and the net proceeds received by Hoechst upon sale of the Hoechst Shares. In February 1998, Hoechst sold the Hoechst Shares for net proceeds of \$2,455,591. Accordingly, we paid to Hoechst \$3,044,409 in cash and the remaining balance of \$2,455,591 was transferred to stockholders' equity. We are required to make additional benchmark payments as specific milestones are met. Upon commercialization of the product, the license agreement provides that we will pay royalties based on net sales.

11. ZOMARIL-TM- (ILOPERIDONE) SUBLICENSE

In November 1997, we entered into an agreement with Novartis, pursuant to which we granted Novartis a sublicense for the worldwide (with the exception of Japan) development, manufacturing and marketing of Zomaril-TM- (iloperidone). Pursuant to the sublicense, Novartis paid to us \$20,000,000 consisting of a fee of \$15,000,000 and \$5,000,000 for the purchase of 606,061 shares of Series D convertible

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

11. ZOMARIL-TM- (ILOPERIDONE) SUBLICENSE (CONTINUED)  
preferred stock. In addition, approximately \$2,400,000 in cash was paid by Novartis as reimbursement of research and development costs incurred by us. The Novartis sublicense provides for future payments by Novartis contingent upon the achievement of regulatory milestones as well as a royalty on net sales, if any, of the product. Novartis has assumed the responsibility for all clinical development, registration and marketing of Zomaril-TM-.

12. MINORITY INTEREST

The \$1,241,032 received by Ingenex upon the issuance of its Series B convertible preferred stock has been classified as minority interest in the consolidated balance sheet. As a result of the Series B preferred stockholders' liquidation preference, the balance has not been reduced by any portion of the losses of Ingenex.

Amounts invested by outside investors in the common stock of the consolidated subsidiaries have been apportioned between minority interest and additional paid-in capital in the consolidated balance sheets. Losses applicable to the minority interest holdings of the subsidiaries' common stock have been reduced to zero.

13. INCOME TAXES

As of December 31, 1999, we had federal and state net operating loss carryforwards of approximately \$58,200,000 and \$21,600,000, respectively. We also had federal research and development tax credit carryforwards of approximately \$1,400,000. The net operating loss and credit carryforwards will expire at various dates beginning in 2000 through 2019, if not utilized.

Under provisions of the Internal Revenue Code, the availability of our net operating loss and tax credit carryforwards may be subject to future limitations because of changes in ownership resulting from financing transactions. To date, no such restriction in the availability to utilize our carryforwards is anticipated. However, future equity transactions which we may enter into could cause ownership changes which may result in substantial limitation, or expiration, of loss and tax credit carryforwards.

Deferred tax assets and liabilities reflect the net tax effects of net operating losses and temporary differences between the carrying amount of assets and liabilities for financial reporting and amounts used

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TITAN PHARMACEUTICALS, INC.  
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

13. INCOME TAXES (CONTINUED)  
for income tax purposes. Significant components of our deferred tax assets for federal and state income taxes are as follows:

<TABLE>  
<CAPTION>

	DECEMBER 31,	
	1999	1998
<S>	<C>	<C>
Deferred tax assets:		
Net operating loss carryforwards.....	\$ 21,000,000	\$ 14,500,000
Research credit carryforwards.....	1,400,000	1,400,000
Capitalized research and development.....	2,300,000	1,500,000
Other - net.....	800,000	1,400,000

Total deferred tax assets.....	25,500,000	18,800,000
Valuation allowance.....	(25,500,000)	(18,800,000)
Net deferred tax assets.....	\$ --	\$ --

</TABLE>

For 1998 and 1997, the valuation allowance increased by \$4,300,000 and \$100,000, respectively.

14. SUBSEQUENT EVENTS

COLLABORATION WITH SCHERING AG

In January 2000, we entered into an agreement with Schering AG, under which Schering and we will collaborate on manufacturing and clinical development of cell therapy for the treatment of Parkinson's disease. We will receive funding for development activities, as well as potential reimbursement of certain prior research and development expenses. Schering will fully fund, and manage in collaboration with us, all future pilot and pivotal clinical studies, and manufacturing and development activities. Under this agreement, Schering received exclusive, worldwide development, manufacturing and commercialization rights, and, in addition to the above payments, agreed to pay us a royalty on product sales. Schering also retains the right to make an equity investment in us, up to a specified amount, upon initiation of pivotal clinical studies. In addition to the collaborative development of Spheramine for Parkinson's disease, Titan and Schering will also mutually explore other potential therapeutic applications of our CCM technology, under a one year exclusive option granted to Schering by us.

PRIVATE PLACEMENT

In March 2000, we completed a private placement of 1,200,000 shares of our common stock for net proceeds of approximately \$38,900,000, after deducting fees and commissions and other expenses of the offering.

CONVERSION OF SERIES D PREFERRED

In March 2000, upon satisfying the conditions for conversion and at the request of Novartis, all outstanding Series D Preferred shares were converted into 666,667 shares of our common stock.

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SIGNATURES

Pursuant to the requirements of Section 13 of the Securities and Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

<TABLE>  
<S>

<C> <C>  
TITAN PHARMACEUTICALS, INC.

By: /s/ LOUIS R. BUCALO

Date: March 30, 2000

-----  
Louis R. Bucalo, M.D.,  
CHAIRMAN, PRESIDENT AND CHIEF EXECUTIVE  
OFFICER

</TABLE>

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

<TABLE>  
<CAPTION>

SIGNATURE	TITLE	DATE
----- /s/ LOUIS R. BUCALO ----- Louis R. Bucalo, M.D.	<S> Chairman, President and Chief Executive Officer (principal executive officer)	<C> March 30, 2000
----- /s/ ERNST-GUNTER AFTING ----- Ernst-Gunter Afting, M.D., Ph.D.	Director	March 30, 2000
----- /s/ VICTOR J. BAUER ----- Victor J. Bauer, Ph.D.	Director	March 30, 2000
----- /s/ EURELIO M. CAVALIER ----- Eurelio M. Cavalier	Director	March 30, 2000
----- /s/ MICHAEL K. HSU ----- Michael K. Hsu	Director	March 30, 2000
----- /s/ HUBERT E. HUCKEL ----- Hubert E. Huckel, M.D.	Director	March 30, 2000

<i>/s/ MARVIN E. JAFFE</i> ----- Marvin E. Jaffe, M.D.	Director	March 30, 2000
<i>/s/ KONRAD M. WEIS</i> ----- Konrad M. Weis, Ph.D.	Director	March 30, 2000
<i>/s/ ROBERT E. FARRELL</i> ----- Robert E. Farrell	Executive Vice President and Chief Financial Officer (principal financial and accounting officer)	March 30, 2000

</TABLE>

Certain portions of this Exhibit have been omitted pursuant to a request for confidentiality. Such omitted portions, which are marked with brackets [ ] and/or an asterisk \*, have been separately filed with the Commission.

#### DEVELOPMENT AND LICENSE AGREEMENT

THIS DEVELOPMENT AND LICENSE AGREEMENT (the "Agreement") is made the 25th day of January, 2000, by and between TITAN PHARMACEUTICALS, INC., a corporation organized and existing under the laws of the State of Delaware and having its principal place of business at 400 Oyster Point Boulevard, Suite 505, South San Francisco, California 94080, U.S.A. (hereinafter referred to as "Titan") and SCHERING AG, a corporation organized and existing under the laws of Germany and having its principal place of business at Muellerstrasse 178, Berlin-Wedding, D-13342 Berlin, Germany (hereinafter referred to as "Schering"). Titan and Schering are sometimes referred to herein individually as a "Party" and collectively as the "Parties."

#### WHEREAS:

(A) Titan is developing through its research and development activities a compound consisting of human retinal pigment epithelial cells on microcarriers for use, *inter alia*, in the treatment of Parkinson's Disease and Parkinsonian Movement Disorders and has the right to grant rights and licenses and/or sublicenses under the Titan Patents (hereinafter defined) and Titan Know-How (hereinafter defined);

(B) Schering has expressed to Titan its interest in obtaining from Titan certain rights and licenses under the Titan Patents and Titan Know-How and in cooperating with Titan in the development and commercialization of Product(s) containing the Compound (hereinafter defined);

(C) Titan is willing to grant such rights and licenses and/or sublicenses to Schering and to cooperate with Schering under the terms and conditions set forth in this Agreement:

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual covenants and agreements contained herein, the Parties hereto, intending to be legally bound, do hereby agree as follows:

#### 1. DEFINITIONS

The following terms, when capitalized, shall have the following meanings (such meanings to be equally applicable to both the singular and plural forms of the terms defined) as used in this Agreement:

- 1.1 "Additional Indications" means the use of Product for any preventative, diagnostic or therapeutic indication(s) other than the Initial Indication.
- 1.2 "Affiliate" means any person, corporation, partnership, firm, joint venture or other entity which, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, Titan or Schering, as the case may be. As used in this definition, "control" means the possession of the power to direct or cause the direction of the management and policies of an entity, whether through the ownership of the outstanding voting securities or by contract or otherwise.
- 1.3 "Agreement Year" shall mean a period of twelve months beginning on the Effective Date and each anniversary thereof.
- 1.4 "Bankruptcy Event" shall have the meaning set forth in Section 11.2(d).
- 1.5 "Clinical Development" shall refer to all activities relating to planning and execution of clinical studies in humans directed toward obtaining Regulatory Approval of a Product, but does not include any activities falling within the definition of CMC / Manufacturing. Clinical Development includes clinical studies and related regulatory affairs and outside counsel regulatory legal services.

- 1.6 "CMC / Manufacturing" shall mean the development of one or more processes for the manufacture and packaging of the Compound and / or the Product for Preclinical Development, Clinical Development and Commercialization, and shall include, without limitation, formulation, production, fill / finish, sourcing of components, raw materials and packaging supplies, development of regulatory methods and controls, including assays, quality control and quality assurance methodology and stability protocols, and qualification of one or more Compound and Product production facilities.
- 1.7 "Commercialization" and "Commercialize" shall refer to all activities undertaken relating to the pre-marketing, marketing, distribution and sale of the Product.
- 1.8 "Confidential Information" shall have the meaning set forth in Article 7.
- 1.9 "Compound" shall mean a composition consisting of neo-natal human retinal pigment epithelial (RPE) cells on microcarriers (biocompatible particulate support matrices for cells).
- 1.10 "Control" or "Controlled" shall refer to possession of the ability to grant a license or sublicense of Patent Rights, Know-How, information or other intangible rights as provided for herein without violating the terms of any agreement or other arrangement with any Third Party.
- 1.11 "Development" or "Develop" shall refer to all activities relating to Preclinical Development, Clinical Development and CMC / Manufacturing.
- 1.12 "Development Plan" and Budget" shall have the meaning set forth in Section 3.2(b).
- 1.13 "Drug Approval Application" shall mean an application for Regulatory Approval required to be approved before commercial sale or use of a Product as a drug in a regulatory jurisdiction, including, for the purposes of Regulatory Approval in the United States, a Biologic License Application and all supplements filed pursuant to the requirements of the FDA (including all documents, data and other information concerning a Product which are necessary for or included in FDA approval to market the Product) and, for the purposes of Regulatory Approval in Europe, applications for Regulatory Approval to EMEA.
- 1.14 "Effective Date" shall mean the date set out at the start of this Agreement.

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- 1.15 "EMEA" shall mean the European Medicines Evaluation Agency, or any successor agency.
- 1.16 "Europe" shall mean the countries which are members of the European Union as such membership may change from time to time.
- 1.17 "FDA" shall mean the United States Food and Drug Administration or any successor agency.
- 1.18 "Field" shall mean all uses of Product for the Initial Indication and for any Additional Indications which Schering decides, at its discretion, to develop and commercialize.
- 1.19 "First Commercial Sale" shall mean the date on which Schering or an Affiliate or a sublicensee of Schering first sells commercially, pursuant to a Regulatory Approval, a Product in any country of the Territory.
- 1.20 "GCPs" shall mean clinical practices in conformity with the current Good Clinical Practices as established by the International Conference on Harmonization, as such regulations may be interpreted by governing regulatory agencies or as may be amended from time to time, and in conformity with equivalent regulations and interpretations in regulatory jurisdictions in the Territory.

- 1.21 "GLPs" shall mean laboratory practices in conformity with the FDA's regulations and regulatory interpretations of such regulations governing current good laboratory practices set forth in 21 C.F.R. Part 58 et seq., as such regulations may be amended and interpreted by FDA from time to time, and in conformity with equivalent regulations in regulatory jurisdictions in the Territory.
- 1.22 "GMPs" shall mean manufacturing practices in conformity with the FDA's regulations and regulatory interpretations of such regulations governing current good manufacturing practices set forth in 21 C.F.R. Part 210 et seq., as such regulations may be amended and interpreted by FDA from time to time, and in conformity with equivalent regulations in regulatory jurisdictions in the Territory.
- 1.23 "Initial Indication" shall mean the use of Product for the in vivo therapeutic prevention, treatment, cure or mitigation of Parkinson's Disease and / or Parkinsonian Movement Disorders.
- 1.24 "Joint Development Committee" or "JDC" shall mean the committee established pursuant to Section 3.1 below.
- 1.25 "Joint Patents" shall have the meaning set forth in Section 8.3(a).
- 1.26 "Know-How" shall mean techniques and data relating to the Compound or the Product, including but not limited to inventions, practices, methods, knowledge, know-how, skill, trade secrets, experience, test data including pharmacological, toxicological, preclinical and clinical test data, regulatory submissions, adverse reactions, analytical and quality

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control data, assays, marketing, pricing, distribution, cost, sales and manufacturing data or descriptions.

- 1.27 "Net Sales" shall mean the amount invoiced by or on behalf of a Party, its Affiliates or its sublicensees from sales of the Product by or on behalf of such Party to Third Parties in the Territory, less the following deductions applicable to the Product for (i) all trade, cash and quantity credits, discounts, refunds or rebates, including premiums or chargebacks; (ii) allowances or credits to customers on account of governmental requirements, price differences, rejection, outdating, returns, or recalls of Product; (iii) sales commissions; (iv) sales taxes (including value added tax) or other governmental charges imposed upon sales of the Product and paid by Schering; (v) transportation charges and insurance charges paid by Schering estimated not to exceed 1% (one per cent) of invoice; (vi) price adjustments actually made; and (vii) deductions for uncollectible invoices. For the purpose of calculating Net Sales, the Parties recognize that (a) Schering's customers may include persons in the chain of commerce who enter into agreements with Schering as to price even though title to the Product does not pass directly from Schering to such customers and even though payment for such Product is not made by such customers directly to Schering; and (b) in such cases, chargebacks paid by Schering to or through a third party (such as a wholesaler) can be deducted by Schering from gross revenue in order to calculate Net Sales. Any deductions above which involve a payment by Schering shall be taken as a deduction against aggregate sales for the period in which the payment or deduction is made. In the event that a Product is sold in the form of a combination product containing one or more active ingredients in addition to a Product, Net Sales for such combination product will be adjusted by multiplying actual Net Sales of such combination product by the fraction  $A/(A+B)$  where A is the invoice price of the Product, if sold separately, and B is the invoice price of any other active ingredient or ingredients in the combination, if sold separately. If, on a country-by-country basis, the other active ingredient or ingredients in the combination are not sold separately in that country, Net Sales shall be calculated by multiplying actual Net Sales of such combination product by the fraction  $A/C$  where A is the invoice price of the Product if sold separately and C is the invoice price of the combination product. If, on a country-by-country basis, neither the Product nor the other active component or components of the combination

product is sold separately in said country, Net Sales shall be determined between the Parties in good faith.

- 1.28 "NYU License" shall mean the Agreement effective November 20, 1992 between New York University and Theracell Corporation (predecessor corporation to Titan), as amended from time to time, attached hereto and incorporated herein by reference in Exhibit B.
- 1.29 "Packaged Product" shall mean the Product packaged and labeled in compliance with the specifications and requirements of the Regulatory Approval of the country of commercial distribution, in a form ready for delivery to the customer.
- 1.30 "Patents" shall mean all existing patents and patent applications and patent applications hereafter filed covering Compound or Product within the Field, including any continuation, continuation-in-part, division, provisional or any substitute applications,

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any patent issued with respect to any such patent applications, any reissue, re-examination, renewal or extension (including any supplemental protection certificate) of any such patent and confirmation patent or registration patent or patent of addition based on any such patent. The term "cover" or "covering", when used in this Agreement in connection with a Patent shall signify that the manufacture, use, sale, or import of a Compound or a Product by an unlicensed party would infringe such a Patent for use in the Field.

- 1.31 "Patent Expenses" shall mean the fees, expenses and disbursements and outside counsel fees and payments to Third Party agents incurred in connection with the preparation, filing, prosecution and maintenance of Titan Patents covering the Compound or Product within the Field, including Titan's costs of patent interference and opposition proceedings and actions at law and equity for patent infringement.
- 1.32 "Pivotal Clinical Trial" shall mean any clinical trial designed by Schering and discussed with the respective regulatory authorities (e.g., FDA, EMEA) within a country which can be expected to fulfill the criteria for a grant of a marketing approval by the respective regulatory authorities.
- 1.33 "Preclinical Development" shall refer to all activities relating to the planning and execution of non-human studies conducted in in vitro or in relevant in vivo animal models directed toward obtaining Regulatory Approval of a Product in each regulatory jurisdiction in the Territory. This includes preclinical testing, pharmacokinetics, toxicology, documentary and medical writing directly related to Preclinical Development activities, and related regulatory affairs and outside counsel regulatory legal services.
- 1.34 "Product" shall mean any pharmaceutical composition which pharmaceutical composition contains Compound as a pharmaceutically active ingredient (either alone or in combination with one or more other pharmaceutically active ingredients) suitable to deliver dopamine and possibly other therapeutic materials after transplantation into patients in the Field.
- 1.35 "Regulatory Approval" shall mean any approvals, product and / or establishment licenses, registrations or authorizations of any federal, state or local regulatory agency, department, bureau or other governmental entity, necessary for the manufacture, use, storage, importation, export, transport or sale of Product in a regulatory jurisdiction.
- 1.36 "Research Reimbursement" shall have the meaning set forth in Section 5.1.
- 1.37 "Royalty Percentage" shall have the meaning set forth in Section 5.2.
- 1.38 "Schering Patents" shall mean any Patents owned or Controlled by Schering or its Affiliates covering the research, development,



manufacture, use, importation, sale, or offer for sale of the Compound or the Product.

- 1.39 "Titan Know-How" shall mean all Know-How, whether currently existing or developed or obtained during the course of this Agreement, and whether or not patentable or confidential that is now Controlled or hereinafter becomes Controlled by Titan or its

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Affiliates and that relates to the research, development, utilization, manufacture or use of the Compound or the Product. Notwithstanding anything herein to the contrary, Titan Know-How shall exclude Titan Patents.

- 1.40 "Titan Patents" shall mean any Patents owned or Controlled by Titan or its Affiliates covering the research, development, manufacture, use, importation, sale or offer for sale of the Compound or the Product.
- 1.41 "Territory" shall mean all countries of the world.
- 1.42 "Third Party" shall mean any entity other than Titan or Schering and their respective Affiliates and sublicensees.
- 1.43 "Valid Claim" shall mean a claim of any issued, unexpired United States or foreign patent which shall not have been withdrawn, canceled or disclaimed, or held invalid or unenforceable by a court of competent jurisdiction in an unappealed or unappealable decision.
- 1.44 "Written Disclosure" shall have the meaning set forth in Section 7.6.

## 2. LICENSES AND ASSIGNMENT

- 2.1 **EXCLUSIVE LICENSE:** Subject always to the NYU License (with which this Agreement must be consistent), and subject to the last sentence of this paragraph, Titan grants to Schering an exclusive (even as to Titan) worldwide license and / or sublicense, with a right to sublicense, under the Titan Patents, the Titan Know-How and the Joint Patents to use, develop, manufacture, have manufactured, market, sell, import for sale and distribute the Compound and / or the Product in the Territory for use in the Field, subject to the terms and conditions hereof and the terms and conditions of the NYU License. Notwithstanding the foregoing, Titan shall retain the right to conduct Development and related activities to the extent specifically provided for in this Agreement, subject to the terms and conditions hereof. Should an existing agreement preclude the granting of a sublicense by Schering, then upon written request by Schering, Titan will grant additional sublicenses to third parties designated by Schering; provided, however, that the terms and conditions of such further sublicenses shall not be inconsistent with the terms and conditions of this Agreement, and that the terms and conditions of the further sublicenses shall not be less favorable to Titan than those of this Agreement; provided further that any consideration payable by such designated sublicensees for or in connection with the grant of such sublicenses shall be exclusively for Schering's account; and provided further that, until Schering has paid Titan the Research Reimbursements under Sections 5.1(a) through 5.1(c), any consideration paid by such designated sublicensees shall (except in the case of sublicenses to Affiliates where such consideration is always exclusively for Schering's account) be shared equally by Schering and Titan after deduction of any amount due to New York University. A list of the Titan Patents identified as of the Effective Date is attached hereto as Exhibit A. Such list shall be modified from time to time to reflect any changes to Titan Patents and to include any

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Titan Patents acquired by or coming under the Control of Titan during the term of this Agreement.

- 2.2 **EXISTING LICENSES:** The licenses granted under Section 2.1 include sublicenses of Third Party Know-How and Patents existing and licensed

to Titan on the Effective Date. A list of all such agreements as of the Effective Date is attached hereto as Exhibit B, true, correct and complete copies of which have been provided to Schering prior to the Effective Date. Any royalties payable to Third Parties (except for any that may be due under the Percell Biolytica AB Agreement, as defined in Section 6 of this Agreement) pertaining to technology discussed in the previous sentence shall be paid by Titan and, if not so paid, may be paid by Schering and offset or deducted from royalty payments under Section 5. From time to time at Schering's request, Titan will use its commercially reasonable efforts to obtain a consent (a "Consent") from existing licensors and other contractual counterparties with Titan. Such Consent shall contain the agreement of such licensor to (i) give reasonable written notice to Schering prior to terminating the underlying license or contract, (ii) provide Schering a reasonable period to cure any default under such license or contract, and (iii) permit Schering or one or more of its Affiliates to assume Titan's obligations thereunder as sublicensee or assignee of Titan's rights thereunder, in each case at Schering's option.

2.3 ORPHAN DRUG ACT: To the fullest extent permitted by law,

(a) Promptly upon Schering's decision to initiate Pivotal Clinical Trial of the Product and upon Schering's making the Research Reimbursement payment described in Section 5.1(a), Titan shall transfer to Schering legal title to and possession of any and all Orphan Drug Act applications, including FDA-designated Orphan Biological Application 97-1057, and other requests for designation by FDA of the Product as an orphan drug, and / or any and all Orphan Drug Act designations by FDA of the Product as an Orphan Drug. The Parties confirm that Schering will have the right to claim and use any taxation credits, deductions or other benefits available as a result of Orphan Drug Act designation by FDA of the Product or a grant of marketing exclusivity by FDA for the Product pursuant to the Orphan Drug Act.

(b) Subject always to the provisions of Section 11.2 below, Schering shall use commercially reasonable best efforts to obtain Orphan Drug exclusivity for the Product for the Initial Indication. Titan agrees to cooperate with and assist Schering to the extent reasonably requested by Schering in the preparation, amendment and / or prosecution of petitions or other requests for Orphan Drug Act designation or Orphan Drug Act exclusivity for Product, and any other marketing exclusivity available in the United States or any other country of the Territory. Such assistance shall include without limitation participation by Titan representatives in meetings with U.S. governmental authorities as reasonably requested by Schering, and subject to the availability of Titan personnel. Schering shall keep Titan apprised of its progress in obtaining Orphan Drug Act exclusivity and any other marketing exclusivity that becomes available in the United States or any other country of the Territory. Schering shall be the legal

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and beneficial owner of Orphan Drug exclusivity or any other marketing exclusivity obtained in regard to any Product in the United States or any other country of the Territory.

2.4 As long as this Agreement remains in effect, and for so long as Schering remains actively engaged in the development or commercialization of a Product for use in the Field, Titan shall not develop, manufacture, or commercialize a product that utilizes cell-coated microcarrier technology and that competes with the Product. The provisions of this Section 2.4 shall have no force or effect in the European Union or in any other country where it may contravene any antitrust directive or law.

3. DEVELOPMENT

- (a) *FORMATION OF THE JDC: Within fifteen (15) days after the Effective Date (or such later time as may be mutually agreed to by the Parties), the Parties shall establish the JDC. The JDC shall consist of an equal number of representatives of Titan and Schering to be agreed upon by the Parties from time to time. Either Party may designate a substitute for a member unable to be present at a meeting. One of the Schering members of the JDC, chosen at the sole discretion of Schering, along with one of the Titan members of the JDC, chosen at the sole discretion of Titan, shall serve as co-chairs of the JDC. Regardless of the number of representatives from each Party on the JDC, each Party shall have one vote on any issue. Meetings of the JDC shall be held quarterly, and may be called by either Party with not less than twenty (20) business days notice to the other unless such notice is waived, and meetings shall be held alternately at the offices of Titan or of Schering or an Affiliate as may be designated by Schering. The JDC may be convened, polled or consulted from time to time by means of telecommunication or correspondence. Each Party will disclose to the other proposed agenda items reasonably in advance of each meeting of the JDC. Each Party shall bear its own costs for participation in the JDC.*
- (b) *FUNCTIONS OF THE JDC: The JDC shall function as a forum for the Parties to inform and consult with one another concerning progress of and changes to Development and the Development Plan, meeting Development goals, dealing with obstacles to successful Development, and the status of obtaining Regulatory Approvals. The JDC shall have no role, consultative or otherwise, with regard to Commercialization other than those reasonably necessary to transition from Development to Commercialization. The following specific functions shall be delegated to the JDC:*
- (i) *plan, coordinate and oversee the Development of the Product in order to obtain Regulatory Approval in the Territory;*
  - (ii) *assume responsibility for the Development Plan as established in Section 3.2(b);*
  - (iii) *propose updates yearly to the Development Plan, which plan will specify a reasonable level of detail by which Titan and Schering will conduct Preclinical Development, Clinical Development and CMC / Manufacturing;*
  - (iv) *propose any amendments of the Development Plan which are not covered in the yearly updates;*
  - (v) *prepare detailed budgets consistent with the Development Plan and allocate such budgets to particular Development tasks; and*
  - (vi) *subject to Section 3.4, evaluate any proposal to contract with any Third Party to perform any Development activities.*
- (c) *LIMITATION ON JDC AUTHORITY: Notwithstanding the creation of the JDC, each Party to this Agreement shall retain the rights, powers and discretions granted to it hereunder, and the JDC shall not be delegated or vested with any such rights, powers or discretion unless such delegation or vesting is expressly provided for herein or the Parties expressly so agree in writing. The JDC shall not have the power to amend or modify this Agreement which may be amended or modified only as provided in Section 13.11.*

- (d) *RESOLUTION OF DISPUTES: If the JDC cannot reach a unanimous decision with respect to the Development matters delegated to it within ten (10) days then the disputed matter shall be promptly referred to a senior manager of each Party designated by such Party. If the senior managers are unable to resolve such matter within ten (10) days after one Party notifies the other of its desire to have the matter referred to such senior managers, the decision of Schering's senior manager shall control.*

### 3.2 DEVELOPMENT

- (a) *Titan and Schering each agree to cooperate in the Development of the Product and to use commercially reasonable efforts to develop and bring the Product to market. Subject always to Section 11.2 of this Agreement, Titan and Schering each agrees to use commercially reasonable efforts to execute and substantially perform the obligations assumed by it under the Development Plan, exercising the same degree of diligence in Commercialization of the Product as it exercises with respect to proprietary products of comparable commercial potential.*
- (b) *The Development of the Product shall, subject to Section 11.2 of this Agreement, be governed by a development plan ("Development Plan"), which shall provide for the Development of the Product in the Territory and shall be updated, amended, supplemented and otherwise modified from time to time by the JDC. The Parties have agreed upon and approved the Initial Development Plan which is attached hereto as Exhibit C. Subject to Schering's obligation to provide the development funding referred to in Section 3.3 below, Titan and Schering shall*

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*each be responsible for the costs of the Development activities allocated to that Party pursuant to the Initial Development Plan.*

- (c) *Applications to carry out clinical studies: Schering shall be responsible for preparing, filing and prosecuting applications for permission to conduct Clinical Development in such countries of the Territory which require such applications to be filed. With respect to the United States and any other country where Titan has such an application on file with the appropriate regulatory authorities, Titan shall transfer such application to Schering upon Schering's written request following Schering's decision to initiate the Pivotal Clinical Trial of the Product and upon Schering's making the Research Reimbursement payment described in Section 5.1(a) of this Agreement. Prior to the transfer to Schering, all communications and interactions with regulatory authorities by Titan with respect to such applications shall be reviewed and approved in advance by Schering.*
- (d) *Drug Approval Applications: Schering shall be responsible for preparing, filing and prosecuting Drug Approval Applications and seeking Regulatory Approvals for the Product in all countries of the Territory wherein Schering, in good faith and in the exercise of reasonable business judgment, considers it is commercially reasonable to do so, including preparing all reports necessary as part of a Drug Approval Application. Schering shall file first for Regulatory Approval in the U.S., the European Union, Canada and Japan, in an order acceptable to Schering. All such Drug Approval Applications shall be filed in the name of Schering and a copy of each such Drug Approval Application shall be promptly provided to Titan. In connection with all Drug Approval Applications being prosecuted by Schering under this Section 3.2, Schering agrees to provide Titan with a copy (which may be wholly or partly in electronic form) of all filings to regulatory agencies that it*

makes hereunder within thirty (30) days after written request by Titan, at no cost to Titan, and Titan shall thereafter, on reasonable advance notice to Schering, have the right freely to utilize such filings for its Drug Approval Applications outside the Field. Titan will inform Schering of all such utilization of Schering filings for Titan's Drug Approval Applications outside the Field and shall provide Schering with such information on such filings as Schering considers reasonably necessary to safeguard Schering's interests in the Product.

- (e) *Cooperation: The Parties shall consult and cooperate (including in the case of Titan providing such commercially reasonable assistance as Schering shall reasonably request) in the preparation of each regulatory submission and in obtaining and maintaining Regulatory Approvals within the Territory, provided however, that, except with regard to the pilot U.S. trial, prior to and following approval of a Drug Approval Application, Schering shall be solely responsible for interactions with regulatory authorities throughout the Territory. In order to facilitate consultation on submissions, a shared database will be set up using the Schering Globe Doc System, and the Parties will agree upon the format of individual reports. Subject to the foregoing, Schering shall provide Titan and Titan shall provide Schering with reasonable advance notice of any scheduled meeting with the FDA, EMEA or any other regulatory authority in a major*

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*Certain portions of this Exhibit have been omitted pursuant to a request for confidentiality. Such omitted portions, which are marked with brackets [ ] and/or an asterisk \*, have been separately filed with the Commission.*

*regulatory jurisdiction relating to any Drug Approval Application, and Titan and Schering shall have the right to participate in any such meeting. Schering shall from time to time promptly inform Titan about any significant Regulatory Approval milestones achieved. In connection with all Drug Approval Applications being prosecuted by Schering under this Section 3.2, Schering agrees to provide Titan with a copy (which may be wholly or partly in electronic form) of all filings to regulatory agencies that it makes hereunder within thirty (30) days after written request by Titan, at no cost to Titan. In the event that any regulatory agency threatens or initiates any action to remove a Product from the market or there is any recall or equivalent action (whether voluntary or involuntary) in any country of the Territory, Schering shall notify Titan of such communication within three (3) business days of receipt by Schering. As between the Parties, Schering shall be the legal and beneficial owner of all Drug Approval Applications and related approvals in the Territory.*

- (f) *Each Development Plan shall provide a reasonably detailed written time line for each step to be achieved with respect to the Development and Regulatory Approval of the Product, the estimated Development Expenses of obtaining such Regulatory Approval and the description of a final Product.*
- (g) *Each Development Plan shall be updated annually by the JDC and submitted by October 1 of each calendar year to the Parties for review and approval not later than sixty (60) days after such submission.*

3.3 *DEVELOPMENT FUNDING: Schering undertakes to provide the following funding to Titan in order to partially support the conduct by Titan of the Preclinical and pilot CMC / Manufacturing Development activities allocated to Titan pursuant to the Development Plan.*

*In the first Agreement Year: [ \* ]*

In the second Agreement Year: [ \* ]

In the third Agreement Year: [ \* ]

The funding referred to in this Section 3.3 will be provided to Titan by Schering in equal monthly installments in advance, the first payment to be made within five business days of the Effective Date. Titan undertakes to use such Development funding exclusively for the purposes of carrying out its Development obligations hereunder.

3.4 RIGHT TO ENGAGE THIRD PARTIES

Titan may, with the prior written consent of Schering, such consent not to be unreasonably withheld, engage Third Parties to conduct Preclinical and CMC / Manufacturing Development assigned to Titan in the Development Plan as defined in Section 3.2(b).

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3.5 SCHERING STEP-IN RIGHTS: Without prejudice to any other remedies available to Schering under this Agreement or at law, if Titan materially fails to undertake the reasonable Development tasks allocated to it under this Agreement in accordance with the time lines and other conditions allocated to it under this Agreement and in accordance with the time lines and other conditions allocated to it under the Development Plan and this Agreement generally, Schering may, after ninety (90) days prior written notice to Titan, undertake that particular task ("Work") and complete it at its own expense if Titan has not at such time begun to carry out such Work in a reasonable manner. Schering shall be entitled to commercially reasonable cooperation and assistance from Titan to accommodate its efforts, including assignments to Schering of sponsorship of regulatory filings if necessary to permit the exercise by Schering of its rights under this Section 3.5. Costs reasonably incurred by Schering in carrying out such Work will be reimbursed by Titan on a quarterly basis or may, at Schering's option, be set off against any payments otherwise due to Titan under this Agreement; provided, however, that the amount of reimbursement shall be limited to that portion of the Development Funding of Section 3.3 allocated to the specific task.

4. COMMERCIALIZATION

4.1 Subject always to Section 11.2 of this Agreement, Schering undertakes to use commercially reasonable efforts to begin the regular commercial production, use, and sale of the Product in good faith and as soon as commercially practicable, and in no event later than six (6) months from obtaining Regulatory Approval, and to continue diligently thereafter to commercialize the Product, exercising the same degree of diligence in Commercialization of the Product as it exercises with respect to proprietary products of comparable commercial potential.

4.2 Subject to applicable laws and regulations, labeling on all Product sold by or on behalf of Schering pursuant to this Agreement, and all advertising, marketing and promotional materials used in connection therewith, will identify Titan as the licensor of the Product.

5. PAYMENTS

5.1 RESEARCH REIMBURSEMENT: Schering shall make the following payments ("Research Reimbursement") to Titan within thirty (30) business days after the first achievement of each of the following milestones. Each of these Research Reimbursement payments shall be paid only once for Product(s) in the Field regardless of the number of times the milestones are achieved by the Product or the number of indications for which the Product is developed or commercialized.

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EVENT	PAYMENT
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Certain portions of this Exhibit have been omitted pursuant to a request for confidentiality. Such omitted portions, which are marked with brackets [ ] and/or an asterisk \*, have been separately filed with the Commission.

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- (a) Schering's decision to initiate Pivotal Clinical Trial of the Product, such decision to be made within thirty (30) days of delivery of the safety and efficacy report on the pilot clinical trials as specified in the Development Plan. [ \* ]
- 
- (b) Regulatory Approval of the Product by the FDA. [ \* ]
- 
- (c) Upon Regulatory Approval by EMEA [ \* ]
- 

5.2 ROYALTIES:

- (a) **GENERAL:** Subject as hereinafter provided, Schering shall pay to Titan, on a country-by-country basis, a royalty equal to [ \* ] of Net Sales of the Product (the "Royalty Percentage") in each country for which a Valid Claim of a Titan Patent exists, such Royalty Percentage to be payable for as long as such a Valid Claim exists in the country in question.
- (b) **EXPIRY OF VALID CLAIM:** In any country of the Territory in which a Valid Claim of a Titan Patent existed at the date of First Commercial Sale but ceases to exist at any time before the expiry of fifteen (15) years from First Commercial Sale, the Royalty Percentage will be reduced to [ \* ] and will be payable for the shorter of:
- (i) five years from the date on which the Valid Claim ceased to exist; and
  - (ii) the period between the date on which the Valid Claim ceased to exist and the date fifteen years after First Commercial Sale.
- On expiry of the shorter of the above periods, Schering shall have no obligation to pay any Royalty Percentage to Titan under this Section 5.2 for the country in question.
- (c) **NO VALID CLAIM:** In each country of the Territory in which a Valid Claim does not exist at the date of First Commercial Sale, the Royalty Percentage will be [ \* ] of Net Sales, such Royalty Percentage to be payable to Titan for a period of five (5) years from First Commercial Sale whereupon Schering's obligation to pay the Royalty Percentage will cease; provided however that if, during the five (5) years following First Commercial Sale, a Valid Claim of a Titan Patent comes into being in the relevant country, the Royalty Percentage set out in Section 5.2(a) above shall apply from the date that such Valid Claim of a Titan Patent exists until the date of expiry of such Valid Claim.
- (d) **LICENSE FOLLOWING EXPIRATION:** Following the expiration of the royalty obligations on a country-by-country basis, Schering shall thereafter have an exclusive (even

as to Titan), paid-up license under Titan Know-How to make, have made, use, sell, offer for sale, have sold and import the Compound and / or the Product in that country.

- (e) **ROYALTY REPORTS AND PAYMENTS:** Schering shall make royalty payments to Titan quarterly within fifty-five (55) days after the end of each calendar quarter in which Net Sales occurred.

A report summarizing the Net Sales of the Products during the relevant quarter on a country-by-country basis shall be delivered to Titan within fifty-five (55) days following the end of each calendar quarter for which royalties are due.

(f) **PAYMENTS; INTEREST:** Any payments due under this Agreement shall be due on such date as specified in this Agreement and, in the event such date is a day on which commercial banks are not authorized to conduct business in either San Francisco, California, or Berlin, Germany, then the next succeeding business day, and shall be made by wire transfer to a designated bank account of the receiving Party. Any failure by a Party to make a payment within five days after the date when due shall obligate such Party to pay interest to the receiving Party at a rate per annum equal to 2% (two per cent) over the prime rate as quoted by Bank America on Reuters screen "USPRIME1" as of the date such payment is due or the following business day, from the due date until the payment date, such interest also being due on the payment date.

5.3 **TAXES:** The Party receiving royalties shall pay any and all taxes levied on account of royalties it receives under this Agreement. If laws or regulations require that taxes be withheld, the Party remitting royalties will (a) deduct those taxes from the remittable royalty, (b) timely pay the taxes to the proper taxing authority, and (c) send proof of payment to the other Party within thirty (30) days of receipt of confirmation of payment from the relevant taxing authority. The Party remitting royalties agrees to make all lawful and reasonable efforts to minimize such taxes to the other Party.

5.4 **PAYMENTS TO OR REPORTS BY AFFILIATES:** Any payment required under any provision of this Agreement to be made to either Party or any report required to be made by any Party shall be made to or by an Affiliate of that Party if designated by that Party as the appropriate recipient or reporting entity without relieving such Party from responsibility for such payment or report.

5.5 **PAYMENT CURRENCY:** Payments by Schering under this Agreement shall be made in U.S. dollars. Except for Net Sales in the United States, where payments are based on Net Sales in countries other than the member states of the European Currency Union, the amount of such payments expressed in the currency of each country shall be converted into Euros at the exchange rate of the last date of the applicable calendar quarter. The applicable exchange rate will be the Euro foreign exchange reference spot rate published daily by the European Central Bank, Frankfurt/Main. If no Euro foreign exchange reference spot rate is determined for the relevant currency, the Parties shall agree upon another reference rate. Finally, the payable Euro amount shall be converted into US dollars by the Euro foreign exchange reference spot published by the European Central

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Bank, Frankfurt/Main, at the last day of the applicable calendar quarter. These Euro foreign exchange reference spot rates are currently published by Reuters on screen "ECB37."

## 6. **MANUFACTURE AND SUPPLY**

Schering will be responsible for the manufacture of Compound and Product for use and sale in the Field in the Territory. Titan will grant to Schering a sublicense under the License and Supply Agreement effective January 1, 1999, between Theracell Inc. and Percell Biolytica AB, as may be required for the Development and Commercialization of the Product in the Field. Schering shall thereafter be responsible for payment of all royalties to Percell Biolytica AB. If and when, but only if and when, Schering exercises the specific option set forth in Section 13.15(b)(iv) (and not any other option set forth in Section 13.15), then Titan agrees that it will work with Percell Biolytica AB to arrange for assignment of the License and Supply Agreement of January 1, 1999, to Schering, or alternatively, at Titan's option, for the right of Schering to negotiate its own supply agreement with



Percell Biolytica AB. Titan agrees to take any actions and execute any documents that Schering may reasonably request to accomplish the intent of this Section.

7. CONFIDENTIALITY

7.1 CONFIDENTIALITY; EXCEPTIONS: Except to the extent expressly authorized by this Agreement or otherwise agreed in writing, the Parties agree that the receiving Party and its employees (who shall be bound in writing to observe the confidentiality provisions of this Agreement) shall keep confidential and shall not publish or otherwise disclose or use for any purpose other than as provided for in this Agreement any information and other information and materials furnished to it by the other Party pursuant to this Agreement or any information developed during the course of the collaboration hereunder, or any provisions of this Agreement that are the subject of an effective order of the U.S. Securities and Exchange Commission granting confidential treatment pursuant to the Securities Act of 1934, as amended (collectively, "Confidential Information"), except to the extent that it can be established by the receiving Party that such Confidential Information:

- (i) was already known to the receiving Party, other than under an obligation of confidentiality, at the time of disclosure by the other Party;
- (ii) was generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving Party in breach of this Agreement;
- (iii) became generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving Party in breach of this Agreement;
- (iv) was disclosed to the receiving Party, other than under an obligation of confidentiality, by a Third Party who had no obligation to the disclosing Party not to disclose such information to others; or

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- (v) was independently discovered and / or developed by the receiving Party as documented in its corporate records.

7.2 AUTHORIZED DISCLOSURE: Each Party may disclose Confidential Information hereunder to the extent such disclosure is reasonably necessary in filing or prosecuting patent applications, prosecuting or defending litigation, filing or updating any Drug Approval Application, complying with applicable governmental laws, rules and regulations or conducting preclinical or clinical trials or, in the case of Schering, engaging in marketing, sales, professional services, professional education, or adverse events or complaint collecting analysis or reporting activities; provided, that if a Party is required by law or regulation to make any such disclosures of the other Party's Confidential Information it will, except where impracticable for necessary disclosures, for example in the event of medical emergency, give reasonable advance notice to the other Party of such disclosure requirement and, except to the extent inappropriate in the case of patent applications, will use its reasonable efforts to secure confidential treatment of such Confidential Information required to be disclosed. In addition and with prior written notice to the other Party of each Third Party with whom a confidential disclosure agreement is being entered into, each Party shall be entitled to disclose, under a binder of confidentiality, Confidential Information to any Third Party for the purpose of carrying out the purposes of this Agreement. Where materiality of disclosure requires a press release or other disclosure pertaining to this Agreement by one Party, the disclosing Party shall give the other Party a copy of the proposed disclosure and afford that Party at least two (2) business days.

- 7.3 *SURVIVAL: This Article 7 shall survive the termination or expiration of this Agreement for a period of five (5) years.*
- 7.4 *TERMINATION OF PRIOR AGREEMENT: This Agreement supersedes the Confidentiality Agreement between Titan and Schering dated as of January 22, 1999. All Information exchanged between the Parties under the said Confidentiality Agreement shall be deemed to be Confidential Information and shall be subject to the terms of this Article 7, and shall be included within the definition of Confidential Information.*
- 7.5 *PUBLICATIONS: Schering shall determine the overall strategy for publication in support of the Product in the Territory.*
- 7.6 *PUBLICITY REVIEW: Subject to the other provisions of this Section 7, no Party shall originate any written publicity, news release, or other announcement or statement relating to this Agreement or to performance hereunder or the existence of an arrangement between the Parties (collectively "Written Disclosure") without the prior prompt review and written approval of the other Party, which approval shall not be unreasonably withheld or delayed. Notwithstanding the foregoing provisions of this Section 7.6, any Party may make any public Written Disclosure it believes in good faith based upon the advice of counsel is required by applicable law or any listing or trading agreement concerning its publicly traded securities, provided that prior to making such Written Disclosure, the disclosing Party shall provide the other Party with a copy of the materials*

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*Certain portions of this Exhibit have been omitted pursuant to a request for confidentiality. Such omitted portions, which are marked with brackets [ ] and/or an asterisk \*, have been separately filed with the Commission.*

*proposed to be disclosed and provide the receiving Party with at least two (2) business days to review the proposed Written Disclosure.*

8. *OWNERSHIP OF INTELLECTUAL PROPERTY AND PATENT RIGHTS*

- 8.1 *OWNERSHIP: Each Party shall solely own any inventions made solely by that Party's employees or consultants in the course of performing work under this Agreement. Inventions made jointly by employees or consultants of Titan and Schering and any Patents resulting therefrom shall be owned by Schering subject to the licenses granted to Titan pursuant to Section 11.2. However, Titan will have a worldwide non-exclusive license to such Patents for use outside the Field, with royalties under the license to be negotiated by the parties in good faith (but in no event shall the royalties exceed [ \* ] of net sales).*
- 8.2 *DISCLOSURE OF JOINT INVENTIONS: Any such patent application disclosing inventions made jointly by the Parties shall be provided by one Party to the other reasonably in advance of the intended date for submission of such application to a governmental patent authority.*
- 8.3 *PATENT FILINGS*
- (a) *Each Party, at its sole discretion, cost and responsibility, shall prepare, file, prosecute and maintain Patents to cover discoveries and inventions made solely by its own employees or consultants relating to Compound or Product and use commercially reasonable efforts to file initially all such applications in the Territory or the appropriate forum under the circumstances wherein such a Party determines it is commercially reasonable to do so. Schering shall file, prosecute and maintain Patents to cover inventions relating to the discovery, evaluation, manufacture, use or sale of the Compound or the Product that are made jointly by personnel of Titan and Schering in the course of the collaboration (herein referred to as "Joint Patents"). The determination of the countries in the Territory in which to file Joint Patents shall be made by Schering. Schering shall have the right to direct and control all material actions relating to the prosecution or maintenance of Joint Patents in the Territory,*

including interference proceedings, reexaminations, reissue opposition and revocation proceedings.

- (b) The Parties agree to use commercially reasonable efforts to ensure that any Patent filed outside the United States prior to a filing in the United States will be in a form sufficient to establish the date of original filing as a priority date for the purposes of a subsequent filing in the United States. Schering shall bear all costs related to the filing of Joint Patents. The Parties agree to use commercially reasonable efforts to ensure that any Patent filed in the United States prior to filings outside of the United States will be in a form sufficient to establish the date of original filing as a priority date for the purpose of a subsequent filing in any contracting state of the Paris Convention.

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8.4 **THIRD PARTY PATENTS:** Each Party agrees to bring to the attention of the other Party any Third Party Patent it discovers or has discovered and which relates to the subject matter of this Agreement.

8.5 **ENFORCEMENT RIGHTS:**

- (a) **NOTIFICATION OF INFRINGEMENT:** If either Party learns of any infringement or threatened infringement by a Third Party of Titan Patents, Schering Patents or Joint Patents, such Party shall promptly notify the other Party and shall provide such other Party with all available evidence of such infringement.
- (b) **ENFORCEMENT IN THE TERRITORY:** Subject to the next sentence, Titan shall be obligated, at its own expense, to defend Titan Patents and Schering shall be obligated, at its own expense, to defend Joint Patents in the Territory. Schering shall have the right but not the obligation to institute, prosecute and control at its own expense any action or proceeding with respect to infringement of any Titan Patents or Joint Patents covering the manufacture, use, importation, sale or offer for sale of the Product in the Territory, by counsel of its own choice. Titan shall have the right, at its own expense, to be represented in any action by counsel of its own choice. If Schering fails to bring an action or proceeding or otherwise take appropriate action to abate such infringement within a period of one hundred eighty (180) days of notice by Titan to Schering requesting action, Titan will have the right to bring and control any such action or proceeding relating to Titan Patents by counsel of its own choice and Schering will have the right to be represented in any such action by counsel of its own choice and at its own expense. If one Party brings any such action or proceeding, the other Party agrees to be joined as a party plaintiff if necessary to prosecute the action or proceeding and to give the first Party commercially reasonable assistance and authority to file and prosecute the suit. Any damages or other monetary awards recovered pursuant to this Section 8.5(b) shall be allocated first to the costs and expenses of the party bringing suit, then to the costs and expenses, if any, of the other Party. In the event that Schering brings such action, any amounts remaining shall be distributed as follows: compensatory damages shall be treated as Net Sales in the country and calendar quarter received and punitive and exemplary damages shall be paid equally to Schering and Titan. In the event that Titan brings such action, any damages or other monetary awards recovered shall be divided equally between the Parties.
- (c) **SETTLEMENT WITH A THIRD PARTY:** The Party that controls the prosecution of a given action shall also have the right to control settlement of such action, provided however, that if one Party controls, no settlement shall be entered into without the written consent of the other Party (which consent shall not be unreasonably withheld) if such settlement would

materially and adversely affect the interests of the other Party.

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- 8.6 **DEFENSE AND SETTLEMENT OF THIRD PARTY CLAIMS:** If a Third Party asserts that a patent owned by it is infringed by any Product, Titan will be solely responsible for defending against any such assertions at its cost and expense (subject to the provisions of Section 8.5(b)), but no settlement may be entered into without the written consent of Schering, which shall not be unreasonably withheld. The costs of any such settlement (including, without limitation, damages, expense reimbursements, compliance, future royalties or other amounts) shall be paid exclusively by Titan. If any Third Party is successful in any such claim and Schering is ordered to make any payments to such Third Party in connection therewith, any such payments may be offset or deducted from the payment obligations of Schering under the Agreement.
- 8.7 **PATENT EXPENSES:** All worldwide Patent Expenses with respect to Titan Patents shall be borne by Titan and all worldwide Patent Expenses with respect to Joint Patents shall be borne by Schering, subject in both cases to the terms of this Agreement.
- 8.8 **TRADEMARKS:** Schering shall be responsible for the selection, registration and maintenance of all trademarks which it employs in connection with the Product and shall own and control such trademarks and pay any costs in connection therewith. Titan recognizes the exclusive ownership by Schering of the proprietary Schering name, logotype or trademark furnished by Schering (including Schering's Affiliates) for use in connection with the Product. Titan shall not, either while this Agreement is in effect or at any time thereafter register, use or attempt to obtain any right in or to any such name, logotype or trademark or in and to any name, logotype or trademark confusingly similar thereto. Only Schering will be authorized to initiate, at its own discretion and at its own cost, legal proceedings against any infringement or threatened infringement of the trademarks applicable to the Product.
- 8.9 **USE OF NAMES:** Neither Party shall use the name of the other Party in relation to this transaction in any public announcement, press release or other public document without the written consent of such other Party, which consent shall not be unreasonably withheld or delayed, provided however, that either Party may use the name of the other Party in any document filed with any regulatory agency or authority, including the FDA and the Securities and Exchange Commission, in which case Schering shall be referred to as "Schering AG, Germany". The Parties agree not to use the name of the other Party in relation to this transaction in any press release, public announcement or other public document without the approval of such other Party, which approval shall not be unreasonably withheld or delayed.
- 8.10 **NO TRADEMARK RIGHTS:** Except as otherwise provided herein, no right, express or implied, is granted by this Agreement to use in any manner the name "Schering" or "Titan" or any other trade name or trademark of the other Party or its Affiliates in connection with the performance of this Agreement.
9. **REPRESENTATIONS AND WARRANTIES**
- 9.1 **REPRESENTATIONS AND WARRANTIES:**

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- (a) Each of the Parties hereby represents and warrants to the other Party as follows:
- (i) The Agreement is a legal and valid obligation binding upon such Party and enforceable in accordance with its terms. The execution, delivery and performance of the Agreement by such Party does not conflict with any agreement, instrument or understanding, oral or

written, to which it is a party or by which it is bound, nor to such Party's knowledge, violate any law or regulation of any court, governmental body or administrative or other agency having jurisdiction over it;

(ii) Titan has not granted and during the term of the Agreement neither Party will grant any right to any Third Party relating to the Titan Patents, Titan Know-How and Joint Patents in the Field which would conflict with the rights granted to either Party hereunder.

(b) Titan hereby represents and warrants to Schering that Titan:

(i) Has provided or shown to Schering all information in its possession or control or of which it is aware as of the Effective Date, concerning efficacy, side effects, injury, toxicity or sensitivity, reaction and incidents of severity thereof, associated with any clinical use, studies, investigations or tests with the Product (animal or human), whether or not determined to be attributable to the Product.

(ii) Has conducted or has caused its contractors or consultants to conduct, and will in the future conduct, the preclinical and clinical studies of the Product in accordance with applicable United States law, known or published standards of the FDA, and the scientific standards applicable to the conduct of studies in the United States.

(iii) Has employed and will in the future employ individuals of appropriate education, knowledge, and experience to conduct or oversee the conduct of Titan's clinical and preclinical studies of the Product.

(iv) Has not employed (and, to the best of its knowledge, has not used a contractor or consultant that has employed) and in the future will not employ (or, to the best of its knowledge, use any contractor or consultant that employs) any individual or entity debarred by the FDA or, to the best knowledge of Titan, any individual who or entity which is the subject of an FDA debarment investigation or proceeding (or similar proceeding of the EMEA), in the conduct of the preclinical or clinical studies of the Product.

(v) In the course of developing the Product, has not conducted, and during the course of this Agreement it will not conduct, any Development activities in violation of applicable GCPs, GLPs or GMPs;

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(vi) As of the Effective Date, except as it may have previously disclosed to Schering in writing, has not received any notices of infringement or any written communications relating in any way to a possible infringement with respect to the Compound or any potential Products, and that it is not aware that the manufacture, use or sale of Compound or any potential Products infringes any Third Party patent rights.

(vii) As of the Effective Date, it is not aware of any prior act or any fact which causes it to conclude that any Titan patent is invalid or unenforceable.

(viii) Has complied in all material respects with each license listed on Exhibit B hereto, and during the

term hereof will comply in all material respects and use all reasonable efforts to keep in full force and effect each such license; neither this Agreement nor any of the transactions contemplated hereby will, with the giving of notice or the lapse of time or both constitute a default or breach of any such license.

(ix) Titan has obtained or licensed all rights to the Compound and the Titan Patents and the Titan Know-How free and clear of any liens, encumbrances or rights to repurchase.

(x) During the term hereof, Titan will not grant a lien on this Agreement or on any of Titan's rights or obligations hereunder or on the Titan Patents or Titan Know-How related to the Product.

(c) Schering hereby represents and warrants that Schering:

(i) Will conduct or cause its contractors and consultants to conduct, the preclinical and clinical studies of the Product in accordance with applicable United States law, known or published standards of the FDA and EMEA, and the scientific standards applicable to the conduct of studies in the United States and the European Union.

(ii) Will not employ (or, to the best of its knowledge, use any contractor or consultant that employs) any individual or entity debarred by the FDA (or subject to a similar sanction of EMEA) or, to the best knowledge of Schering, any individual who or entity which is the subject of an FDA debarment investigation or proceeding (or similar proceeding of the EMEA), in the conduct of the preclinical or clinical studies of the Product.

(iii) In the course of developing the Product, will not conduct any Development activities in violation of applicable GCPs, GLPs, or GMPs.

9.2 **INDEMNIFICATION FOR BREACHES OF REPRESENTATIONS AND WARRANTIES:** Without prejudice to any other right or remedy available to either Party arising out of the breach by the other of any of the representations and warranties set out in Section 9.1 above, each Party hereby agrees to indemnify, defend, and hold the other Party and its shareholders, directors, officers, agents and employees harmless from and against any and all losses

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resulting directly or indirectly from the breach of any representation or warranty made by such Party hereunder. In the event that a Party is seeking indemnification under this Section 9.2, it shall inform the other Party of a claim as soon as reasonably practicable after it receives notice of the claim, shall permit the indemnifying Party to assume direction and control of the defense of the claim (including the right to settle the claim solely for monetary consideration), and shall cooperate as requested (at the expense of the indemnifying Party) in defense of the claim.

9.3 **PERFORMANCE BY AFFILIATES:** The Parties recognize that each Party may perform some or all of its obligations under this Agreement through Affiliates, provided however, that each Party shall remain responsible for and be a guarantor of the performance by its Affiliates and shall cause its Affiliates to comply with the provisions of this Agreement in connection with such performance.

10. **INFORMATION AND REPORTS**

10.1 **INFORMATION AND REPORTS DURING DEVELOPMENT AND COMMERCIALIZATION:**

Schering and Titan will disclose and make available (subject to any confidentiality agreements or requirements of law) to each other without charge all preclinical, clinical, regulatory and other Information, including copies of all preclinical and clinical reports known by Schering or Titan directly concerning the Product within the Field at any time during the term of this Agreement. Each Party shall own and maintain its own database of clinical trial data accumulated from all clinical trials of the Product for which it was responsible and of adverse drug event information for the Product. At the option of the requesting Party, such data shall be provided in a computer readable or other electronic format by the providing Party, to the extent available, which shall also assist in the transfer and validation of such data to the receiving Party. Without limitation of the foregoing, each Party shall supply to the other the information required by the other Party and requested by it (either as a routine practice or as a specific request) for purposes of compliance with regulatory requirements. With respect to information concerning Commercialization, Schering agrees to keep Titan regularly informed on all post marketing activities but shall have no obligation, except as specifically set out in this Agreement, to share pricing, marketing or sales information with Titan.

- 10.2 **ADVERSE DRUG EXPERIENCES; COMPLAINTS:** The Parties agree to enter into a standard operating procedure by and between the Parties to govern the exchange of information relating to adverse drug experiences, Product quality and Product complaints.
- 10.3 **RECORDS OF REVENUES AND EXPENSES:** Each Party will maintain complete and accurate records which are relevant to revenues, costs, expenses and payments on a country-by-country basis in the Territory under this Agreement and such records shall be open during reasonable business hours for a period of three (3) years from creation of individual records for examination at the other Party's expense and not more often than once each year by a firm of certified public accountants selected by the other Party, or the other Party's internal accountants unless the first Party objects to the use of such internal accountants, for the sole purpose of verifying for the inspecting Party the correctness of calculations and classifications of such revenues, costs, expenses or payments made

under this Agreement. Each Party shall bear its own costs related to such audit; provided that, for any underpayments greater than five (5) percent by Schering, Schering shall pay Titan the amount of underpayment, interest as provided for in Section 5.2(f) from the time the amount was due and Titan's out-of-pocket expenses. For any underpayments less than five (5) percent by Schering found under this Section, Schering shall pay Titan the amount of underpayment. Any overpayments by Schering will be credited to future royalties. Any records or accounting information received from the other Party shall be Confidential Information for purposes of Article 7. Results of any such audit shall be provided to both Parties, subject to Article 7.

- 10.4 If there is a dispute between the Parties following any audit performed pursuant to Section 10.3, either Party may refer the issue (an "Audit Disagreement") to an independent certified public accountant for resolution. In the event an Audit Disagreement is submitted for resolution by either Party, the Parties shall comply with the following procedures: (a) the Party submitting the Audit Disagreement for resolution shall provide written notice to the other Party that it is invoking the procedures of this Section 10.4; (b) within thirty (30) days of the giving of such notice, the Parties shall jointly select a recognized international accounting firm to act as an independent expert to resolve such Audit Disagreement; (c) the Audit Disagreement submitted for resolution shall be described by the Parties to the independent expert, which description may be in written or oral form, within ten (10) business days of the selection of such independent expert; (d) the independent expert shall render a decision on the matter as soon as practicable but in no event more than sixty (60) days after submission of the Audit Disagreement to the expert; (e) the

decisions of the independent expert shall be final and binding unless such Audit Disagreement involves alleged fraud, breach of this Agreement, or construction or interpretation of any of the terms and conditions thereof; (f) all fees and expenses of the independent expert, including any third party support staff or other costs incurred with respect to carrying out the procedures specified at the direction of the independent expert in connection with such Audit Disagreement, shall be borne by each Party in inverse proportion to the disputed amounts awarded to the Party by the independent expert through such decision (e.g., Party A disputes \$100, the independent expert awards Party A \$60, then Party A pays forty percent (40%) and Party B pays sixty percent (60%) of the independent expert's costs.)

11. TERM AND TERMINATION

11.1 TERM: This Agreement shall commence as of the Effective Date and, unless sooner terminated as provided herein shall continue in effect until such time as no royalties are payable under Article 5 hereunder to Titan, provided that the license to Titan Know-How granted pursuant to Section 2 shall survive such termination.

11.2 TERMINATION

(a) EARLY TERMINATION: In the event that Schering elects not to initiate the Pivotal Clinical Trial of the Product pursuant to Section 5.1(a), this Agreement shall terminate, and all payments made by Schering to Titan shall be retained by Titan; and Titan shall retain full rights to use any data and information generated, up to

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the date of termination, by Titan, Schering, or jointly pertaining to the Compound and the Product.

(b) TERMINATION AT WILL: Schering will have the right to terminate this Agreement for the Territory or on a country-by-country basis and be fully released of all obligations hereunder (except as expressly provided for herein) by ninety (90) days' notice given at any time, and Titan shall thereafter retain full rights to use any data and information generated, up to the date of termination, by Titan, Schering, or jointly pertaining to the Compound and the Product.

(c) TERMINATION FOR MATERIAL BREACH: Failure by Schering or Titan to comply with any of the respective material obligations and conditions contained in this Agreement shall entitle the other Party to give the Party in default notice requiring it to cure such default. If such default is not cured within ninety (90) days after receipt of such notice, the notifying Party shall be entitled (without prejudice to any of its other rights conferred by this Agreement) to terminate this Agreement or, in the event of an uncured material breach by Titan, to invoke the rights of Schering set forth in Section 11.2(f) by giving a notice to take effect immediately. The right of either Party to terminate this Agreement as hereinabove provided shall not be affected in any way by its waiver of, or failure to take action with respect to, any previous default.

(d) TERMINATION FOR INSOLVENCY: In the event that one of the Parties hereto shall go into liquidation, a receiver or a trustee be appointed for the property or estate of that Party and said receiver or trustee is not removed within sixty (60) days, or the Party makes an assignment for the benefit of creditors (collectively, a "Bankruptcy Event"), and whether any of the aforesaid Bankruptcy Events be the outcome of the voluntary act of that Party or otherwise, the other Party shall be entitled to terminate this Agreement (or in the event Titan suffers such a Bankruptcy Event, Schering may effect its rights described in Section 11.2(f) forthwith by giving a written notice to Titan.



(e) *EFFECT OF TERMINATION: In the event that this Agreement is terminated by Schering in one or more countries or in its entirety in accordance with Section 11.2(b), or this Agreement is terminated by Titan pursuant to Section 11.2(c) either in one country or in its entirety, Schering will, with respect to each country to which the termination applies:*

(i) *deliver to Titan the Titan Know-How and assign to Titan its rights in said Titan Know-How and Titan Patents, if any, in either case relating solely to the country that is the subject of the termination;*

(ii) *not use the Titan Know-How as long as it has to be kept confidential pursuant to Article 7 hereof in such country;*

(iii) *not infringe any of the Titan Patents in such country;*

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(iv) *transfer all regulatory filings and approvals related to the Product in such country to Titan upon Titan's written request for same;*

(v) *sell to Titan, at any time within ninety (90) days of such termination, at Titan's election, all or any portion of the inventory of the Compound or Product owned by Schering or its Affiliates which are intended for sale in such country at a price equal to Schering's or its Affiliate's cost for such inventory; such election shall be made by Titan in writing and within thirty (30) days of such election Schering shall ship, at Titan's cost and direction such inventory to Titan. Titan shall pay for such inventory within forty-five (45) days of receipt of such inventory.*

(f) *EFFECT OF TERMINATION BY SCHERING PURSUANT TO SECTIONS 11.2(C) AND (D): In the event of a Bankruptcy Event or a material default described in Sections 11.2(c) and (d) by Titan, which default is not cured as provided therein, Schering may elect in lieu of terminating this Agreement to declare the license granted pursuant to this Agreement to be irrevocable. From the date of receipt of notice of such election, Titan shall have no further rights or obligations (except for those arising under Section 7.3) under this Agreement except that Titan may enforce any financial obligations of Schering provided that if such election occurs prior to the First Commercial Sale of the Product, any additional Development Expenses and any reasonable costs incurred by Schering to Commercialize the Product as a result of such election shall be credited against amounts payable by Schering to Titan.*

(g) *GENERAL: Except where expressly provided for otherwise in this Agreement, termination of this Agreement shall not relieve the Parties hereto of any liability, including any obligation to make payments hereunder, which accrued hereunder prior to the effective date of such termination nor preclude any Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement nor prejudice any Party's right to obtain performance of any obligation.*

(h) *SURVIVING RIGHTS: The rights and obligations set forth in this Agreement shall extend beyond the term or termination of the Agreement only to the extent expressly provided for herein, or the extent that the survival of such rights or obligations are necessary to permit their complete fulfillment or discharge.*

12.1 Sections 14 and 15, the indemnification and insurance provisions of the NYU License (Exhibit B), are incorporated herein by reference. NYU is an intended third party beneficiary of this Agreement for purposes of enforcing such indemnification and insurance provisions.

12.2 INDEMNIFICATION BY SCHERING FOR NEGLIGENCE, WILLFUL MISCONDUCT, OR BREACH: Schering shall indemnify, defend and hold harmless Titan and its shareholders, employees, agents,

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officers, managers, partners and directors and each of them (a "Titan Indemnified Party") from and against any and all Third Party claims, causes of action, losses, damages and costs (including reasonable attorneys' fees regardless of outcome) of any nature made or asserted against a Titan Indemnified Party or lawsuits or other proceedings filed or otherwise instituted against a Titan Indemnified Party, in each case by a Third Party (hereinafter individually and collectively (a) "Titan Loss(es)") resulting from or arising out of the development, manufacture, sale or marketing of Product in the Territory but solely to the extent that such Titan Loss(es) arise out of or result from the negligence or willful misconduct of Schering, its Affiliates or sublicensees or the breach by Schering, its Affiliates or sublicensees of any of its or their representations or warranties or obligations or covenants hereunder.

12.3 INDEMNIFICATION BY TITAN FOR NEGLIGENCE, WILLFUL MISCONDUCT, OR BREACH: Titan shall indemnify, defend and hold harmless Schering and its Affiliates and their respective shareholders, employees, agents, officers, managers, partners and directors and each of them (a "Schering Indemnified Party") from and against any and all Third Party claims, causes of action, losses, damages and costs (including reasonable attorney's fees regardless of outcome) of any nature made or asserted against a Schering Indemnified Party, in each case by a Third Party (hereinafter individually and collectively (a) "Schering Loss(es)") resulting from or arising out of the manufacture, use, marketing or sale of Product in the Territory but solely to the extent that such Schering Loss(es) arise out of or result from the negligence or willful misconduct of Titan or its Affiliates, or the breach by Titan or its Affiliates of any of its or their representations or warranties or obligations or covenants hereunder.

12.4 CONDITIONS TO INDEMNIFICATION: A person or entity that intends to claim indemnification under this Article 12 (the "Indemnitee") shall promptly notify the other party (the "Indemnitor") of any Schering Loss(es) or Titan Loss(es) as the case may be in respect of which the Indemnitee intends to claim such indemnification. Indemnitor shall have the right to control the defense of any Schering Loss(es) or Titan Loss(es) as the case may be as to which the obligation to indemnify the Indemnitee has been acknowledged by the Indemnitor in writing under Section 12.2 or 12.3. The indemnity agreement in this Article 12 shall not apply to amounts paid in settlement of any loss, claim, damage, liability or action if such settlement is effected without the consent of the Indemnitor, which consent shall not be withheld or delayed unreasonably. The failure to deliver notice to the Indemnitor within a reasonable time after the commencement of any such action, only if prejudicial to its ability to defend such action, shall relieve such Indemnitor of any liability to the Indemnitee under this Article 12, but the omission so to deliver notice to the Indemnitor will not relieve it of any liability that it may have to any Indemnitee otherwise than under this Article 12. The Indemnitee under this Article 12, its employees and agents shall cooperate fully with the Indemnitor and its legal representatives in the investigations and defense of any action, claim or liability covered by this indemnification. The Indemnitee shall have the right to participate in the defense of such action.

13. MISCELLANEOUS

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13.1 **ASSIGNMENT:**

- (a) Schering may assign any of its rights or obligations under this Agreement in any country to any of its Affiliates, provided that such assignment shall not relieve Schering of its responsibilities for performance of its obligations under this Agreement.
- (b) Titan may assign any of its rights or obligations under this Agreement in any country to any of its Affiliates, and Titan may assign its rights or obligations under this Agreement as part of a transaction such as a merger, acquisition, or sale of all or substantially all of the assets of Titan; provided that such assignment shall not relieve Titan of its responsibilities for performance of its obligations under this Agreement; and provided further that the financial obligations of Schering shall survive any such assignment.
- (c) This Agreement shall be binding upon and inure to the benefit of the successors and permitted assigns of the Parties. Any assignment not in accordance with this Agreement shall be void.

13.2 **RETAINED RIGHTS:** Nothing in this Agreement shall limit in any respect the right of either Party to conduct research and development and to market products using such Party's technology other than as herein expressly provided.

13.3 **FURTHER ACTIONS:** Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other acts as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

13.4 **NOTICES:** All notices hereunder shall be in writing and shall be deemed given if delivered personally or two days after mailed by registered or certified mail (return receipt requested), postage prepaid, or sent by express courier service, to the Parties at the following addresses (or at such other address for a Party as shall be specified by like notice; provided that notices of a change of address shall be effective only upon receipt thereof).

(a) If to Titan:

Titan Pharmaceuticals, Inc.  
400 Oyster Point Boulevard, Suite 505  
South San Francisco, California 94080  
U.S.A.  
Attn.: President and CEO

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(b) If to Schering:

Schering AG  
Muellerstrasse 178  
Berlin-Wedding  
D-13342 Berlin  
Germany  
Attn.: Legal Department

13.5 **WAIVER:** Except as specifically provided for herein, the waiver from time to time by either of the Parties of any of their rights or their failure to exercise any remedy shall not operate or be construed as a continuing waiver of same or any other of such Party's rights or remedies provided in this Agreement.

13.6 **SEVERABILITY:** If any term, covenant or condition of this Agreement or the application thereof to any Party or circumstances shall, to any extent or in any country, be held to be invalid or unenforceable, then (i) the remainder of this Agreement, or the application of such term, covenant or condition of this Agreement shall be valid and be enforced

to the fullest extent permitted by law; and (ii) the Parties hereto covenant and agree to renegotiate any such term, covenant or application thereof in good faith in order to provide a reasonably acceptable alternative to the term, covenant or condition of this Agreement or the application thereof that is invalid or unenforceable, it being the intent of the Parties that the basic purposes of this Agreement are to be effected.

- 13.7 **AMBIGUITIES:** Ambiguities, if any, in this Agreement shall not be construed against any Party, irrespective of which Party may be deemed to have authored the ambiguous provision.
- 13.8 **GOVERNING LAW AND JURISDICTION:** This Agreement shall be governed by and interpreted under the laws of the State of New York as applied to contracts entered into and performed entirely in New York by New York residents.
- 13.9 **HEADINGS:** The sections and paragraph headings contained herein are for the purposes of convenience only and are not intended to define or limit the contents of said sections or paragraphs.
- 13.10 **COUNTERPARTS:** This Agreement may be executed in one or more counterparts (and by facsimile), each of which shall be deemed an original but all of which together shall constitute one and the same instrument.
- 13.11 **ENTIRE AGREEMENT; AMENDMENTS:** This Agreement, including all Exhibits attached hereto and thereto, and all documents delivered concurrently herewith and therewith, set forth all the covenants, promises, agreements, warranties, representations, conditions and understandings between the Parties hereto and supersede and terminate all prior agreements and understandings between the Parties. There are no covenants, promises, agreements, warranties, representations, conditions or understandings, either oral or written, between the Parties other than as set forth herein and therein. No subsequent

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Certain portions of this Exhibit have been omitted pursuant to a request for confidentiality. Such omitted portions, which are marked with brackets [ ] and/or an asterisk \*, have been separately filed with the Commission.

alteration, amendment, change or addition to this Agreement shall be binding upon the Parties hereto unless reduced to writing and signed by the respective authorized officers of the Parties. This Agreement, including without limitation the exhibits, schedules and attachments thereto, are intended to define the full extent of the legally enforceable undertakings of the Parties hereto, and no promise or representation, written or oral, which is not set forth explicitly herein or therein is intended by either Party to be legally binding. Both Parties acknowledge that in deciding to enter into the Agreement and to consummate the transaction contemplated hereby neither has relied upon any statement or representations, written or oral, other than those explicitly set forth herein.

- 13.12 **EXPENSES:** Except as otherwise specified in this Agreement, all costs and expenses including, without limitation, fees and disbursements of counsel, financial advisors and accountants, travel, lodging, meals and entertainment incurred in connection with this Agreement and the transactions contemplated hereby shall be paid by the Party incurring such costs and expenses.
- 13.13 **INDEPENDENT CONTRACTORS:** The status of the parties under this Agreement shall be that of independent contractors. Neither Party shall have the right to enter into any agreements on behalf of the other Party, nor shall it represent to any person that it has any such right or authority. Nothing in this Agreement shall be construed as establishing a partnership or joint venture relationship between the Parties. This Agreement is not intended to be a partnership between Titan and Schering for federal, state or local income tax purposes.
- 13.14 **EQUITY INVESTMENT:** Upon successful completion of pilot clinical trials

and Schering's decision to enter into Pivotal Clinical Trials, Schering may make an equity investment of up to [ \* ] in Titan on terms to be mutually agreed upon by the Parties.

13.15 In further consideration for the payments made hereunder, and for other good and valuable consideration the receipt of which is hereby acknowledged, Titan extends to Schering a one year worldwide exclusive option, which option expires on the first anniversary of the Effective Date of this Agreement ("Option Period"), to enter into a further License Agreement for any expanded Compound(s) consisting of cells, other than RPE cells, on microcarriers used in Product(s) for all indications. Should Schering exercise an Option in this Section 13.15, the Parties agree to enter into good faith negotiations to conclude a further definitive License Agreement(s) which, in addition to the terms and conditions usual and customary in such agreements, shall include at least the following provisions obligating Schering to take the following actions:

- (a) Prepare and execute a Development Plan for the Product(s) of the expanded Compound(s) in a manner similar to that set forth in Section 3.2 of this Agreement.
- (b) Pay to Titan a license fee between [ \* ], the amount of which fee shall be mutually agreed upon in good faith and shall be dependent upon the breadth of the Field, e.g.:
  - (i) For expanded Compound(s) for a single therapeutic indication; or

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Certain portions of this Exhibit have been omitted pursuant to a request for confidentiality. Such omitted portions, which are marked with brackets [ ] and/or an asterisk \*, have been separately filed with the Commission.

- (ii) For expanded Compound(s) for all CNS indications; or
- (iii) For expanded Compound(s) for all non-CNS indications; or
- (iv) For expanded Compound(s) for all indications.

Such license fee shall additionally be dependent upon the relative contribution of each Party to the development of supportive data for such Additional Indications during the Option Period.

- (c) Pay to Titan milestone payments, in amounts to be determined in good faith negotiations between the Parties, upon the occurrence of each of the following events:
  - (i) The submission of an IND to the FDA for a Product containing an expanded Compound; and
  - (ii) Regulatory Approval by FDA of a Product containing an expanded Compound; and
  - (iii) Regulatory Approval by the EMEA of a Product containing an expanded Compound.
- (d) Pay to Titan royalties on Net Sales of Products covered by the further License Agreement, on a Product by Product and country-by-country basis, as follows: [ \* ] of Net Sales if the Product is covered by both a Patent and Titan Know-How; or [ \* ] of Net Sales if the Product is covered only by Titan Know-How.

IN WITNESS WHEREOF Titan and Schering have caused this agreement to be executed as of the date first written above by their respective officers thereunto duly authorized.

BY: /s/ Professor Dr. G. Stock  
-----  
TITLE: \_\_\_\_\_

BY: /s/ Louis R. Bucalo  
-----  
TITLE: \_\_\_\_\_

SCHERING AG

BY: /s/ Dr. J. Kapp  
-----  
TITLE: \_\_\_\_\_

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EXHIBIT A

U.S. PATENTS AND PATENT APPLICATIONS

Pursuant to Section 2.1 of this Agreement, the following U.S. Patents and Patent Applications are currently under the control of Titan:

Issued U.S. Patents:

US 5,618,531 Issued April 8, 1997

Method of Increasing Viability of Cells which are Administered to the Brain or Spinal Cord.

US 5,750,103 Issued May 12, 1998

Method of Transplanting Cells into the Brain and Therapeutic Uses Therefor.

US Patent Applications:

US 08/460,706 Filed June 2, 1995

Method for Transplanting Cells into the Brain and Therapeutic Uses Therefor.

US 08/629,308 Filed April 8, 1996

Method for Gene Transfer to the Central Nervous System.

US 09/002,413 Filed January 2, 1998

Use of Pigmented Retinal Epithelial Cells for Creation of an Immune Privileged Site.

US 09/289,576 Filed April 9, 1999

Methods of Treating Schizophrenia.

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EXHIBIT B

EXISTING LICENSES

Agreement between New York University and Theracell Corporation, effective November 20, 1992, with First Amendment to that Agreement effective February 21, 1995, and Second Amendment to that Agreement effective December 1, 1995.

License and Supply Agreement between Theracell Inc. and Percell Biolytica AB, effective January 1, 1999.

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Certain portions of this Exhibit have been omitted pursuant to a request for confidentiality. Such omitted portions, which are marked with brackets [ ] and/or an asterisk \*, have been separately filed with the Commission.

*EXHIBIT C*

*INITIAL DEVELOPMENT PLAN*

*\*\*\**

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*Certain portions of this Exhibit have been omitted pursuant to a request for confidentiality. Such omitted portions, which are marked with brackets [ ] and/or an asterisk \*, have been separately filed with the Commission.*

*\*\*\**

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CONSENT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Registration Statements (Form SB-2 No. 33-99386, Forms S-8 No. 333-42533 and No. 333-86001) pertaining to the 1993 Stock Option Plan, as amended and restated, the 1995 Stock Option Plan, as amended and restated, and the 1998 Stock Option Plan of Titan Pharmaceuticals, Inc. of our report dated February 24, 2000 except for Note 14, as to which the date is March 3, 2000, with respect to the consolidated financial statements of Titan Pharmaceuticals, Inc. included in this Annual Report on Form 10-K for the year ended December 31, 1999.

[/S/ ERNST & YOUNG LLP]

Palo Alto, California

March 29, 2000



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THIS SCHEDULE CONTAINS SUMMARY FINANCIAL INFORMATION EXTRACTED FROM THE BALANCE SHEET AND STATEMENT OF OPERATIONS AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH FINANCIAL STATEMENTS.

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