FORM 10-K

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended DECEMBER 31, 1996

OR

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934 [NO FEE REQUIRED]

Commission file number 0-19871

CYTOTHERAPEUTICS, INC.
(Exact name of Registrant as specified in its charter)

DELAWARE	94-3078125
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

2 RICHMOND SQUARE, PROVIDENCE, RHODE ISLAND 02906
(Address of principal executive offices) (zip code)

Registrant's telephone number, including area code: (401) 272-3310
Securities registered pursuant to Section 12(b) of the Act: None
Securities registered pursuant to Section 12(g) of the Act:

COMMON STOCK $.01 PAR VALUE
Title of class

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. [x]

Aggregate market value of Common Stock held by non-affiliates at March 10, 1997: $140,832,286. Exclusion of shares held beneficially by any person should not be construed to indicate that such person possesses the power, direct or indirect, to direct or cause the direction of management policies of the registrant, or that such person is controlled by or under common control with the Registrant. Common stock outstanding at March 10, 1997: 16,485,840 shares.

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]

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Definitive Proxy Statement for its 1997 Annual Meeting of Shareholders are incorporated by reference into Part III of this Report.

FORWARD-LOOKING STATEMENTS

This report contains certain forward-looking statements regarding, among other things, the Company's expected results of operations, the progress of the Company's product development and clinical programs, the need for, and timing of, additional capital and capital expenditures, partnering prospects, the need for additional intellectual property rights, the need for additional facilities and potential market opportunities. The Company's actual results may vary materially from those contained in such forward-looking statements because of risks to which the Company is subject such as risks of delays in research, development and clinical testing programs, obsolescence of the Company's technology, lack of available funding, competition from third parties, failure of the Company's collaborators to perform, regulatory constraints, litigation and other risks to which the Company is subject; see "Cautionary Factors Relevant to Forward-looking Information" filed herewith as Exhibit 99 and incorporated herein by reference and Management's Discussion and Analysis of Financial Condition and Results of Operations.

PART 1

FORM 10-K
CYTOTHERAPEUTICS, INC.
For Fiscal Year Ended December 31, 1996

ITEM 1: BUSINESS

THE COMPANY

CytoTherapeutics, Inc. ("CytoTherapeutics" or the "Company") is a leader in the development of novel cell therapy systems designed to deliver therapeutic substances to the central nervous system ("CNS"). The Company believes that its core technology, based on cell-containing, biocompatible implants, may be used to deliver a variety of therapeutic substances. The Company focuses on treatment of CNS diseases using its capsules to deliver proteins within the central nervous system, bypassing the blood brain barrier, a fundamental obstacle to effective treatment of many CNS diseases. The Company is currently developing products for the treatment of chronic pain, Parkinson's disease and amyotrophic lateral sclerosis ("ALS") with additional research efforts directed to several other CNS disorders including Huntington's disease. The Company has also begun to develop products for treatment of certain ophthalmologic diseases. The Company has two product candidates in clinical trials: an implant to treat chronic pain and an implant to treat ALS.

CytoTherapeutics, Inc. was incorporated in Delaware in 1989 and has one subsidiary, Modex Therapeutiques S.A., a Swiss company fifty percent owned by the Company.

The Unmet Need for CNS Therapies

Diseases such as Parkinson's disease, ALS, pain and other degenerative diseases of the CNS affect a significant portion of the U.S. population, particularly the rapidly increasing older segment of the U.S. population. There are generally few effective treatments for these diseases and their cost to society is very high. Development of treatments for these diseases has been constrained by the difficulty of delivering potential drugs to the CNS locations where the drugs are needed. CytoTherapeutics believes that its encapsulated cell therapy can overcome this constraint. If the Company can successfully develop its cell therapy technology, it believes that its technology can provide the platform for treatment of many presently untreatable CNS diseases.

CELL THERAPY BACKGROUND

Role of Cells in Human Health and Traditional Therapies

In healthy individuals, cells maintain normal physiological function by secreting or metabolizing substances, such as sugars, amino acids, neurotransmitters and hormones, which are essential to life. When cells are damaged or destroyed, they no longer produce, metabolize or accurately regulate critical molecular substances required by the body. For example, the progressive decline common to many neurodegenerative diseases, such as Parkinson's disease and ALS, is associated with impaired cellular function.

Biotechnology has created major advances in the development of therapeutic products. In particular, genetic engineering has allowed the production of specific proteins which may be inadequately produced by the body's own cells, whether as a result of genetic defect, disease or injury. Such advances have overcome some of the limitations of traditional pharmaceuticals, such as lack of specificity, but do not reproduce the natural ability of cells to secrete substances at the precise sites of action and in the appropriate physiological quantities or for the duration required. As a result, investigators have considered replacing vital cells which are failing by implanting cells which carry the ability to provide a needed critical molecule. In situations of irreversible failure of vital cells, transplantation of cells offers the possibility of replacing the functions of these failed cells, thus potentially restoring health.

The Potential of Cell Therapy

Cell therapy, which is the use of cells to treat diseases, has the potential to provide a broad therapeutic approach of comparable importance to traditional pharmaceuticals and the more recently developed genetically engineered biologics. However, autologous cells (cells from the individual to whom they are to be transplanted) are available in limited supply, may be abnormal if the patient is ill and often can only be obtained through significant surgical procedures. Allogeneic (same species) cellular transplants and xenogeneic (cross-species) cellular transplants generally require the use of potent immunosuppressive drugs. These drugs broadly compromise the patient's immune system in order to decrease the likelihood of rejection of the transplanted cells and expose the transplant recipient to adverse side effects such as increased risk of infection or cancer. While transplantation of autologous cells, such as those now used in some gene therapy, may not require immunosuppression, these cells cannot be retrieved once administered, even if medically necessary, and it appears to be difficult to control the level and stable output of therapeutic substances which these unencapsulated cells produce. CytoTherapeutics believes its encapsulation technology will reduce or eliminate the need for immunosuppression, and allow site-specific delivery and relative control of cell output, thus unlocking the potential of cell therapy.

CYTOTHERAPEUTICS' PLATFORM TECHNOLOGY: ENCAPSULATED CELL THERAPY

Encapsulated cell therapy may provide the basis for treating a number of currently poorly treated or untreatable diseases, especially those of the CNS. The Company is employing its proprietary encapsulation techniques to develop cell-containing, semipermeable polymer implants designed to be placed into selected sites in the body to treat specific diseases or conditions. These membranes are designed to restrict passage into the implant of substances above a certain size, thereby protecting the transplanted cells by reducing their exposure to the recipient's immune system. The implants are also designed to allow nutrients to reach the encapsulated cells and to allow wastes and the therapeutic protein(s) to pass out of the implant. Typical rejection mechanisms are not activated or are muted because most of the elements of the recipient's immune system, particularly complement and lymphocytes, generally are too large to enter the capsules through the membrane and do not contact the transplanted cells, which remain protected within the encapsulating membrane.

The Company's implants are designed to be biocompatible, remaining in contact with the recipient's tissues without generating a response that would significantly inhibit the functioning of the cells contained within the membrane or cause significant injury to host tissues. When such biocompatibility is achieved, the membrane can selectively permit nutrients and oxygen to pass from the recipient through the membrane into the implant, nourishing the cells and allowing them to function. Similarly, such biocompatibility, together with the permeability of the membrane, enables the substances produced by the encapsulated cells to pass through the membrane and provide the desired therapeutic effect.

ADVANTAGES OF THE COMPANY'S PLATFORM TECHNOLOGY

Many CNS diseases have no satisfactory treatment today, largely because substances generally do not reach the CNS in therapeutic concentrations when administered by conventional routes. The Company believes that its technology represents an approach that may offer a number of advantages over other forms of delivery for therapeutics, especially with regard to diseases and disorders of the CNS or other so-called immunologically privileged sites.

Site-Specific CNS Delivery

Researchers have identified a number of substances which may be beneficial in the treatment of CNS disorders. However, it has been difficult or impossible to find a safe and effective way to deliver many of these substances across the blood brain barrier at the required concentrations. The blood brain barrier is a tightly woven network of endothelial cells which protects the CNS. This barrier restricts the molecules that can enter the brain tissue and excludes many compounds that would otherwise pass from the bloodstream into the brain, including a large number of therapeutics. These therapeutics are generally given by systemic administration, which necessarily distributes the compound throughout the body and results in only a small fraction of the compound reaching the CNS. Systemic delivery may also cause significant side effects since very potent molecules are being delivered to sites in the body where they are not normally present. This is especially likely where large amounts are administered systemically to provide higher levels in the CNS. A recent clinical trial of a new protein, CNTF, for example, resulted in significant systemic side effects after peripheral administration.

In contrast, CytoTherapeutics' cell-containing devices are designed to deliver these therapeutic substances within the brain, spinal column, the surrounding fluid-filled spaces or the eye, bypassing the blood brain barrier (or the blood retina barrier) and directing the therapeutic substances to the site or sites where they are needed. With this site-specific delivery, the Company believes that its devices may be capable of delivering the required amount of therapeutic substance in the locations where it is actually needed, thus avoiding many of the side effects associated with conventional routes of administration. This form of delivery should result in better therapeutic ratios reflecting an ability to provide effective doses with lower toxicity. In addition, because the therapeutic substances are produced by living cells sustained within the implant, these doses potentially may be delivered over extended periods of time. The production of these substances at the site of action eliminates the problems of drug stability which hamper delivery from pumps and polymers.

Retrievability

The Company's implants are designed to be retrievable. If complications arise, or if a new implant is desired, a physician should be able to retrieve and replace the capsule. This retrievability also offers a potential safety advantage over unencapsulated cells, which may be difficult or impossible to recover from the recipient. Moreover, the capsule keeps the cells in the location intended as opposed to unencapsulated cells which cannot be so constrained.

Delivery of Multiple Substances

The Company's implants may provide the advantage of delivering multiple therapeutic substances at a single site. In many instances, the body naturally produces at a single location a number of substances vital to normal function of cells and the body. The Company believes that the ability to provide multiple substances simultaneously could lead to development of improved therapies. The Company's implant to treat chronic pain is one such example of delivery of multiple substances. In addition, preclinical research suggests that multiple proteins may be better than any single factor in the treatment of certain diseases such as ALS. In the CNS, in particular, the Company believes that the simultaneous delivery of multiple neurotrophic factors may be useful for treatment of certain chronic CNS disorders, and the Company is developing methods to deliver such multiple factors.

There can be no assurance that the Company will successfully develop its encapsulation technology commercially or that, if successfully developed, it will achieve the benefits described above or that the advantages of such technology will be greater than the potential disadvantages.

PRODUCT DEVELOPMENT PROGRAMS AND RESEARCH EFFORTS

Overview of Research and Product Development Strategy

The Company's product development strategy is based on the Company's belief that its technology can be used to deliver a wide variety of therapeutic substances across the blood brain barrier and the blood retina barrier. The Company's lead product, its implant for treatment of chronic pain, is designed to provide a new means of delivering substances with known therapeutic effects to the CNS. The Company is evaluating development of implants delivering other agents of known activity. The next group of proposed products in the Company's pipeline seeks to build on the Company's expertise in cell encapsulation to deliver to the CNS genetically engineered therapeutics, such as neurotrophic factors, for the treatment of such chronic and disabling CNS disorders as ALS, Parkinson's and Huntington's disease. The Company has also established a program to treat diseases of the eye. In addition, the Company is investigating the use of encapsulated and unencapsulated neural stem cells for the treatment of various CNS disorders.

The following table lists the potential therapeutic indications for and current status of CytoTherapeutics' primary product development programs and research projects and is qualified in its entirety by reference to the more detailed descriptions of such programs and projects appearing elsewhere in this Report. The Company continually evaluates its research and product development efforts and reallocates resources among existing programs or to new programs in light of experimental results, commercial potential, availability of third-party funding, likelihood of near-term efficacy or significant technology enhancement, as well as other factors. The Company's research and product development programs are at relatively early stages of development and will require substantial resources to commercialize. There can be no assurance that the Company will successfully develop any product or obtain regulatory approvals, enter clinical trials, achieve other milestones or commercialize any products in accordance with currently anticipated timetables, or at all.

PRODUCT DEVELOPMENT PROGRAMS
AND RESEARCH PROGRAMS PROGRAM

PROGRAM	CELL TYPE(1)	STATUS(2)	PARTNER
Chronic pain	Bovine adrenal chromaffin cells	Phase I studies completed in approximately 50 patients; Phase II start in cancer pain and/or neuropathic pain anticipated in first half of 1997	Astra AB
	Engineered cells releasing analgesics	Research	Astra AB
Parkinson's disease	Engineered cells releasing neurotrophic factor(s)	Preclinical development	Genentech, Inc.
Amyotrophic lateral sclerosis	Engineered cells releasing CNTF	Swiss pilot clinical study under way	CytoTherapeutics, Inc.
	Engineered cells releasing NT4/5 and CT-1	Preclinical development	Genentech, Inc.*
Huntington's disease	Engineered cells releasing neurotrophic factor(s)	Research	Genentech, Inc.*
Ophthalmologic diseases	Engineered cells releasing neurotrophic factor(s), anti-inflammatory(s) and/or antiangiogenic(s)	Preclinical development	CytoTherapeutics, Inc.
Multiple sclerosis	Neural stem cells (unencapsulated)	Research	CytoTherapeutics, Inc.

(1) All cells are encapsulated unless otherwise indicated. Engineered cells are genetically altered xenogeneic cells generally derived from rodents.

(2) "Research" refers to early stage research and product development activities IN VITRO, including the selection and characterization of product candidates for preclinical testing.
"Preclinical" refers to further testing of a defined product candidate IN VITRO and in animals prior to clinical studies.
"Pilot clinical study" refers to an initial clinical study in a small number of patients.

*Genentech has commercialization options in these programs; they are funded by CytoTherapeutics.

Chronic Pain Program

The Company estimates that more than 1,200,000 patients in the United States suffer unrelieved severe, chronic pain. Chronic, intractable pain often accompanies or is the result of a number of serious diseases, procedures and conditions including cancer, infection, nerve damage, back surgery, arthritis, amputation, fractures and other conditions. Even where therapies exist, they often have limits to their effectiveness in treating severe, chronic pain. Patients may become intolerant of or unresponsive to narcotics such as morphine, and may experience undesirable side effects. Narcotics must also be carefully monitored to prevent overdosage. Surgical intervention to relieve severe, chronic pain is often irreversible, can have severe side effects and does not always provide relief.

The Company believes that its technologies can be used to treat chronic pain by implanting encapsulated cells which release naturally occurring analgesic substances such as catecholamines and opioid peptides. The Company, together with certain of its academic collaborators, has developed methods for the encapsulation of bovine adrenal chromaffin cells for implantation into the lumbar region of the spinal column for the treatment of chronic pain. The Company believes that encapsulating properly chosen cell types may provide more effective pain relief than traditional approaches and/or may allow treatment of patients who experience little relief with today's therapies.

During 1993 and 1994, the Company collaborated on a pilot clinical study of its chronic pain implant technology with Dr. Patrick Aebischer, a founding scientist of the Company, at Centre Hospitalier Universitaire Vaudois in Switzerland. The study included nine seriously or terminally ill patients experiencing severe, intractable pain for whom narcotics, such as morphine, provided inadequate relief or could not be tolerated. The implant procedure was performed safely in all nine patients and viable implants containing cells were retrieved from eight of the nine patients upon the death of the patient or at or beyond the end of the intended trial period.

In May 1995, the Company commenced its first Company-sponsored Investigational New Drug ("IND") trial in the United States. The Phase I trial was an open label study which included 15 terminally ill cancer patients experiencing severe, intractable pain and having a life expectancy of less than five months. The protocol called for patient treatment to extend for the remaining life of the patient. By February 26, 1997, all 15 patients had completed the study.

In February 1996, the Company initiated an extension of the Phase I trial. In this extension, four patients received a device containing approximately three times the number of cells used in the devices implanted in the first 15 patients. By February 28, 1997, two of the four patients had completed the study. The two patients that remain in the study have each had a device in place for nearly one year without any related significant safety issues.

Based upon the safety profile obtained in the Phase I study, the Company and Astra have elected to move forward into Phase IIA and IIB studies.

After extensive discussions of draft submissions with FDA, in February 1997, the Company submitted two protocols to conduct additional trials under the current Company-sponsored IND in the United States. The first proposed study is a clinical trial in neuropathic pain patients who are opioid unresponsive. This study will serve as the starting point of an expanded Phase II program, provided that it demonstrates safety and retrievability of a modified device. The second proposed study is a Phase II clinical trial in patients suffering from cancer or cancer-related pain.

The Company expects to conduct a further clinical trial of its pain implant in neuropathic pain patients following completion of the Phase II study described above.

All trials are being run in collaboration with Astra Pain Control, the Company's partner.

The Company is also working to develop a second-generation implant for the treatment of chronic pain based on a cell line. The cell line is expected to secrete a number of known analgesic substances.

There can be no assurance that the Company will timely receive the regulatory approvals necessary to commence such clinical trials or that such clinical trials will be successfully completed or that, if successfully completed, will lead to the commercialization of such product.

In March 1995, the Company entered into a Collaborative Research and Development Agreement with Astra AB for the development and marketing of certain encapsulated cell products to treat pain. See "Corporate Collaborations -- Astra AB."

Parkinson's Disease Program

Parkinson's disease ("PD") is a progressively debilitating neurological disorder characterized by tremor, rigidity and slowness of spontaneous movement. The symptoms of PD result from low levels of the neurotransmitter dopamine in the striatum (a portion of the brain) due to the death of dopamine-producing cells in the substantia nigra, a related area of the brain. The causes of the disease are unknown. There is no known cure for PD nor is there any known method for arresting or reversing the fundamental neurodegenerative process that results in the death of dopamine-producing cells.

PD affects approximately 500,000 individuals in the United States, and it is estimated that one in 500 people over 50 years of age will develop this disorder. It is thought that approximately 50,000 new cases are diagnosed annually in the United States, and this number is expected to increase as the population ages. The Company's proposed product will initially be targeted for use by the estimated 300,000 mid-to-late-stage PD patients in the United States.

Currently approved therapies for PD include the systemic oral administration of drugs such as L-dopa (a dopamine precursor), compounds that stimulate the cellular receptors activated by dopamine (receptor agonists), deprenyl (an inhibitor of a dopamine degradative enzyme), and related medications. These agents generally provide adequate treatment of the disease for a limited period. As the disease progresses, however, patients become increasingly resistant to the benefits of the medications while concurrently becoming susceptible to a variety of motor and cognitive side effects. Under these circumstances, they often require extensive supportive care.

The Company is developing an implant to treat PD. The goal of this program is to slow or prevent progression of the underlying degeneration of dopaminergic neurons by delivering neurotrophic factors to the brain. The initial focus of the program is the delivery of Neurturin, a neurotrophic factor with partial homology to GDNF, a factor which has shown promise in preclinical models of PD. The Company believes that, if successfully developed, its implants will be capable of delivering effective, low doses of Neurturin to the areas of the brain where they are required.

The Company has entered into an agreement with Genentech for the development of implants releasing neurotrophic factor(s) to treat PD. See "Corporate Collaborations - Genentech, Inc."

ALS Program

Amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig's disease, is characterized by progressive loss of motor control and death due to degeneration of neurons in the motor system. The Company estimates that approximately 25,000 patients have ALS in the United States. The cause of ALS is unknown in most cases. There is no known cure for the disease.

The Company is sponsoring research to evaluate the feasibility and tolerability of using encapsulated cells to deliver neurotrophic factors into the CNS to treat ALS. Dr. Aebischer and his colleagues have conducted preclinical studies that showed that encapsulated cells delivering CNTF, a neurotrophic factor, slowed the degeneration of the motor neurons affected in ALS.

In March 1995, Dr. Aebischer began an investigator-sponsored pilot (or feasibility) trial of CNTF-releasing, encapsulated cells in ALS patients. The trial, which enrolled 10 patients, was intended to show that these devices could be safely implanted in patients, that devices could safely deliver a recombinant protein (CNTF) directly into the cerebral spinal fluid ("CSF") for a period of three months or longer and that no significant side effects would be experienced. In November 1995, the Company reported that all of these objectives had been achieved. The Company believes that this was the first demonstration that genetically engineered xenogeneic cells can deliver a neurotrophic factor in the CSF for up to three months. There have been no significant safety issues in these patients; however, the membrane/cell combination chosen did lead to some signs of immune recognition to the xenogeneic cells in some patients. In December 1996, Dr. Aebischer initiated a second ALS trial to test modifications of the implant used in the initial pilot study. The results of such trial are not yet available.

Two other companies have conducted clinical trials of systemic rather than direct CNS administration of CNTF to treat ALS. Both such trials have been halted, reportedly because of side effects or lack of efficacy. A third company conducted clinical trials of systemically administered BDNF, another neurotrophic factor, to treat ALS. This trial was considered unsuccessful, reportedly due to lack of efficacy.

The Company believes that administration of growth factors directly to the CNS is preferable to the systemic administration that was utilized in prior clinical trials and that its encapsulation approach may diminish or eliminate the significant side effects reported in other trials while achieving therapeutic levels of growth factors within the CNS. Recently published research suggests that delivery of multiple neurotrophic factors may be required for effective treatment of ALS. The Company believes its technology may be a particularly promising way to deliver multiple neurotrophic factors.

In November 1996, the Company signed a license agreement with Genentech, Inc., that licensed to the Company rights to develop encapsulated cell delivery of NT4/5 and CT-1 to treat ALS (see "Corporate Collaborations - Genentech, Inc."). CT-1 is related CNTF and the Company believes CT-1 could be a promising factor for the treatment of ALS. In addition, both CT-1 and NT4/5 have shown promise in promoting growth and survival of motor neurons in preclinical research experiments, and evidence suggests that the combined effects of these factors, when administered together, are greater than effects of the factors administered alone. If preclinical experiments continue to be encouraging, the Company expects to shift from clinical trials of CNTF to trials of the combination of NT4/5 and CT-1 to treat ALS. See "Patents, Proprietary Rights and Licenses."

Huntington's Research

Huntington's disease ("HD") is an autosomal dominant, progressive neurodegenerative disease resulting in movement disorders, psychiatric disturbances, and death. The symptoms of HD are caused primarily by the death of striatal neurons. In 1993, there were approximately 25,000 patients with symptomatic HD in the United States. The genetic abnormalities that cause HD have been identified, allowing definitive diagnosis of the disorder and identification of at-risk individuals. The manner in which these genetic abnormalities cause HD is unknown. There is no known cure or treatment for the disease.

The Company has conducted studies demonstrating the ability of neurotrophic-factor releasing, encapsulated cells to slow or halt neuronal death in certain animal models of HD. In these models, the Company has shown that implants releasing NGF or CNTF have the ability to reduce the neuronal death implicated in HD and that dysfunction normally associated with striatal neuronal damage could be significantly attenuated. A pilot clinical trial, scheduled to begin in 1997 in Europe, will evaluate the feasibility and tolerability of implanting encapsulated cells that produce CNTF into the CNS of HD patients.

In November 1996, CytoTherapeutics entered into an agreement with Genentech, Inc. for the development and marketing of implants that release CT-1 to treat HD (see "Corporate Collaborations - Genentech, Inc."). CT-1, also known as cardiotropin, is a recently identified member of the cytokine family of growth factors with shared similarities in receptor binding to CNTF. Members of this family have, in preclinical studies, demonstrated direct protective actions on motor-neuron populations affected in ALS. The Company believes that CT-1's activity will be similar to that observed previously with CNTF. If the results of additional experiments and the planned European safety trial are encouraging, the Company intends to test the possibility of using CT-1 to treat HD.

Ophthalmology Program

Many diseases of the eye are presently ineffectively treated, frequently leading to blindness. Certain diseases of the eye, e.g., glaucoma and anterior segment inflammation, can be treated today with topical preparations, although the efficacy of these treatments is variable. These disorders are treatable largely because some or all of the disease processes occur in the anterior portion of the eye, which is accessible to topical drugs. Other serious diseases, such as diabetic retinopathy and age-related macular degeneration, are not treatable because they occur in the posterior portion of the eye, an area that is essentially unreachable with current treatment methods.

Many of these untreatable diseases affect the retina, a posterior part of the eye critical to sight. The retina is part of the CNS, and the Company believes that its encapsulated cell implant technologies can be applied to bypass the blood retina barrier of the eye using the same approach as bypassing the blood brain barrier in the rest of the CNS. If these implants are successfully developed, the Company believes this delivery platform could allow treatment of serious sight-threatening disorders.

The Company is designing its ocular implants to release a number of different factors depending on the disease being treated. Thus, the Company is evaluating neurotrophic factors for neurodegenerative diseases (e.g., glaucoma and retinitis pigmentosa), antiangiogenics for treatment of excessive neovascularization (e.g., macular degeneration and diabetic retinopathy), and anti-inflammatories for ocular inflammation (e.g., uveitis). The complicated nature of the underlying disease processes make it likely that multiple factors may be required for effective treatment. The Company is evaluating the various eye diseases to determine which to address first and to choose and obtain access to the most appropriate factor(s). As part of its assessment, the Company is considering both existing products with known therapeutic action and novel factors, such as neurotrophic factors whose activities and therapeutic utility in humans are promising, but unproven at the present time. The Company does not have rights to any such factors for the ophthalmologic use at present. See "Patents, Proprietary Rights and Licenses."

CytoTherapeutics has begun constructing implants adapted for use in the eye and has started preclinical testing. The Company expects to undertake preclinical animal tests to evaluate the safety and potential efficacy of these implants in 1997.

OTHER AREAS OF RESEARCH AND EVALUATION

Neurotrophic Factors

An important recent advance in neurobiology has been the identification and production of a number of neurotrophic factors; these factors are natural proteins essential for the development, survival and function of a number of critical neuronal cells. Neurotrophic factors may be significant because neurons, the basic functional cells of the nervous system, do not regenerate if lost or damaged. The survival of these neurons in certain stressful conditions may be dependent on the presence of these factors.

Specifically, the progressive death of neurons is characteristic of a number of neurodegenerative disorders, including Parkinson's disease, Huntington's disease, ALS and Alzheimer's disease, and is also characteristic of several important eye diseases. It is generally believed that application of appropriate neurotrophic factors to the neurons associated with these diseases could slow or halt their degeneration and/or death and hence slow disease progression.

A number of biotechnology companies have developed techniques for producing naturally occurring neurotrophic factors by genetically engineering cells to produce these factors. Neurotrophic factors, however, do not easily cross the blood brain barrier or blood retina barrier. This obstacle, among others, has so far hindered the practical use of neurotrophic factors as treatments for neurodegenerative diseases of the CNS.

The Company believes that its technology may represent a practical means of delivering neurotrophic factors across the blood brain barrier or the blood retina barrier. The Company is developing implants which encapsulate cells secreting neurotrophic factors for application to a number of neurodegenerative diseases. The ability to deliver a combination of neurotrophic factors singly or in combination may be important, because no single neurotrophic factor has been shown to protect all classes of neurons, and the Company believes certain neurotrophic factors may act jointly to provide increased biological activity.

The Company is exploring the development of a number of implants based on cells which could secrete various neurotrophic factors. The Company believes its technology may be the best way to deliver these factors, both alone and in combination. All of the cell lines under investigation by the Company for inclusion in these implants are subject to issued patents or patent claims held by third parties and, with the exception of its agreements with Genentech, the Company currently has no rights under patent or patent applications of third parties to use these cell lines in a commercial product. There can be no assurance that the Company will be able to obtain licenses for these cell lines. See "Patents, Proprietary Rights and Licenses" and "Corporate Collaborations."

Conopeptides

CytoTherapeutics is also investigating a series of very potent compounds, called conopeptides, derived from hunting snails. These molecules appear to be highly specific for certain CNS receptors and channels. The Company believes these compounds may represent novel ways to address certain CNS disorders when provided using the Company's technology. The Company's efforts in this area are undertaken as part of its collaboration with Cognetix, Inc. See "Corporate Collaborations - Cognetix, Inc."

Neural Stem Cells

The Company is investigating use of neural stem cells for two distinct purposes. First, since these cells are native to the CNS, they could represent an ideally adapted cell for encapsulated use in the CNS environment. These cells, though not transformed, may be genetically manipulated and subsequently expanded in large numbers.

In addition, these stem cells may be useful for direct grafting into the CNS. Preliminary experiments indicate, that at least in some cases, these cells may be able to repopulate depleted glial cell populations such as those lost in multiple sclerosis. Thus, these cells, which can be differentiated into the major neuronal and glial cells of the CNS, might form the basis for replacement of cells lost in certain neurodegenerative diseases.

In 1994, the Company entered into a contract research and license agreement with NeuroSpheres, Ltd. for the development of therapeutic products involving the implantation of neural stem cells. See "Corporate Collaborations - NeuroSpheres, Ltd." The Company's neural stem cell program is at an early stage and there can be no assurance that it will result in any commercial product or that its license from NeuroSpheres will have commercial value. The Company is arbitrating a dispute under the agreement. See "Corporate Collaborations - NeuroSpheres, Ltd" and "Item 3 - Legal Proceedings."

Gene Therapy

Developments in biotechnology have opened the new field of genetic therapy in which cells are transformed with specific DNA sequences to produce substances that may be useful in treating human disease. However, commercialization of such genetic constructs to treat diseases faces a number of hurdles. Among the more significant of these hurdles is the general inability to sustain or control the dose of the protein introduced into the patient by such a genetic construct or to reverse therapy when it is no longer needed or wanted. In addition, although the risk may be small, the disabled viruses most commonly used in gene therapy may, in rare instances, become competent to release viral particles, thereby providing a chance for the infection of the host.

Under certain circumstances, the Company's technology may be preferred to unencapsulated, autologous cell gene therapy, such as when site-specific, sustained output is important or reversibility is valuable. The Company's encapsulation techniques, if successfully developed and applied in conjunction with gene therapy, should allow cells placed into the body to be removed when desired or necessary. The Company is continuing to investigate the use of its technology for gene therapy.

FURTHER DEVELOPMENT OF CORE TECHNOLOGY

Core Technology Development

The Company continues to develop and extend its core technology. Through its cell biology program, the Company is developing genetically engineered cell lines that will function optimally when encapsulated. The encapsulating membrane must typically be customized for each cell line selected and for each intended therapeutic application. Similarly, the medium (which bathes the cells with required nutrients) and, when appropriate, the matrix (materials within the membrane which provide a framework for cell growth and viability) must also be selected for each cell line.

The Company is developing cell lines which may represent important components in second-generation products (e.g., an engineered cell line secreting analgesics in its pain program) or new products (such as a single device delivering multiple therapeutic substances). It is also conducting research to improve cell line expression levels, as well as regulation and consistency of output. While to date the cells used in the Company's programs have been derived from animals (xenotransplants), in recognition of the international concern focused on the risks of xenotransplantation as well as to optimize the function of implants, the Company is investigating the use of human cell lines. There can be no assurance such development will be successful or of regulatory benefit.

The Company continues to evaluate new and modified forms of membranes for use in its implants. These evaluations are focused on developing membranes with increased strength, better handling characteristics, better transport qualities and greater biocompatibility. These efforts are undertaken internally as well as externally with Akzo Nobel Faser AG. See "Corporate Collaborations - Akzo Nobel Faser AG."

The Company is expanding the range of matrices it evaluates for use in its implants. The Company's goals in this area are to develop matrices with longer life, greater stability and enhanced effects in controlling cell viability and/or productivity.

The Company believes that its growing knowledge of how effectively to combine diverse cell lines, media, matrices and membranes and how to utilize diverse sites for implantation represent important aspects of its proprietary base technology, and this knowledge may allow the Company to develop a variety of products capable of producing a wide range of substances that may be useful for the treatment of a number of diseases.

The Company is also assessing and developing distribution, handling and insertion systems that will facilitate the distribution of its implants to clinicians and enable clinicians both to surgically implant these devices into patients and to retrieve and replace them, as necessary. The Company views the proprietary techniques it is developing to sustain the living cells contained within its implants through the manufacturing process and their subsequent distribution to and surgical implantation by clinicians as an additional, important element of its evolving core technology. See "Manufacturing."

Modex Therapeutiques S.A.

In July 1996, CytoTherapeutics established Modex Therapeutiques S.A. as a 50%-owned, Swiss biotherapeutics company to pursue extensions of CytoTherapeutics' broad-based, encapsulated-cell technology for applications outside the central nervous system. Modex, headquartered in Lausanne, Switzerland, was formed to integrate technologies developed at three universities located in Lausanne - the University of Lausanne, the Centre Hospitalier Universitaire Vaudois (CHUV), and the Ecole Polytechnique Federale de Lausanne - as well as from the Albert Einstein College of Medicine of Yeshiva University in New York City and CytoTherapeutics - to develop products to treat non-CNS diseases such as diabetes, obesity and anemia.

CytoTherapeutics has invested $2 million in Modex, with a commitment to invest Sfr 2.4 million on the second anniversary of the agreement if Modex has, prior to that time, achieved one or more specified scientific milestones, in exchange for a 50% stake in Modex. An investment fund managed by Lombard Odier & Cie, a Swiss private bank, invested $2 million in Modex, with a commitment to invest Sfr 1.2 million on the second anniversary of the agreement, in exchange for a 15% stake in Modex. The balance of the Company is held by the scientific founders.

CytoTherapeutics has granted to Modex an exclusive, royalty-bearing license to CytoTherapeutics' proprietary encapsulated-cell technology for three applications outside the central nervous system (diabetes, obesity and anemia). Modex has granted to CTI an exclusive royalty-bearing license to any technology developed or obtained by Modex for application to diseases, conditions and disorders which affect the central nervous system. In addition to its royalty obligations, CTI is also obligated under this agreement to issue to Modex up to 300,000 shares of CTI Common Stock on the achievement by Modex of certain scientific milestones. Substantially all of these shares are expected to be awarded by Modex as incentive compensation to Modex's founding scientists and other researchers upon the achievement of such milestones.

During the first two years following closing, the Company has the right to acquire the fund's interest in Modex for the greater of a 30% annual return or Sfr 3.6 million. Following this two-year period, CytoTherapeutics has the right to purchase the fund's interest in Modex at 110% of fair market value. Following the second anniversary of the agreement and prior to the tenth anniversary of the agreement, if no public market exists for the Common Stock of Modex, the fund has the right to require CytoTherapeutics to purchase the fund's interest in Modex for 90% of the fair market value of such interest. Any purchase made by CytoTherapeutics under any of the circumstances described in this paragraph may be made, at CytoTherapeutics' option, in cash or shares of CytoTherapeutics Common Stock valued at the market price at the time of purchase.

The scientific founders of Modex are Patrick Aebischer, M.D., Ph.D., Professor of Surgery and Director of Surgical Research and the Gene Therapy Center at the CHUV; Max Wilhelm, Ph.D., who serves as Modex's Chief Executive Officer and was previously Director of Pharmaceutical Research and Development at Ciba-Geigy Corporation where he was responsible for worldwide research and development operations; Bernard Thorens, Ph.D., Professor at the Institute of Pharmacology at the University of Lausanne; and Shimon Efrat, Ph.D., Associate Professor at the Department of Molecular Pharmacology at Albert Einstein College of Medicine at Yeshiva University. Dr. Aebischer is Chairman of Modex and also a scientific founder of CytoTherapeutics and a member of its Board of Directors.

Under the terms of the agreement between CytoTherapeutics and the scientific founders of Modex, CytoTherapeutics has the right to acquire, and the founders have the right to require CytoTherapeutics to acquire, the founders' initial equity interest in Modex in exchange for the issuance of an aggregate of approximately 92,000 shares of CytoTherapeutics Common Stock.

CORPORATE COLLABORATIONS

Astra AB

In March 1995, the Company signed a collaborative research and development agreement with Astra for the development and marketing of certain encapsulated cell products to treat pain. Astra made an initial, nonrefundable payment of $5,000,000 and may make up to $16,000,000 in additional payments subject to the achievement of certain development milestones. Under the agreement, the Company is obligated to conduct certain research and development pursuant to a four-year research plan agreed upon by the parties. Over the term of the research plan, the Company expects to receive annual research payments from Astra of $5 million-$7 million, which the Company expects should approximate the research and development costs incurred by the Company under the plan. Approximately $18,865,000 has been received by the Company through December 31, 1996. Subject to the successful development of potential products and obtaining necessary regulatory approvals, Astra is obligated to conduct clinical trials of such products arising from the collaboration and to seek approval for their sale and use. Astra has the exclusive worldwide right to market products covered by the agreement. Until the later of either the last to expire of all patents included in the licensed technology or a specified fixed term, the Company is entitled to a royalty on the worldwide net sales of such products in return for the license granted to Astra and the Company's obligation to manufacture and supply products. Astra has the right to terminate the agreement after April 1, 1998.

Genentech, Inc.

On November 25, 1996 the Company entered into three agreements with Genentech, Inc. ("Genentech") to develop treatments for Parkinson's disease, Huntington's disease and amyotrophic lateral sclerosis ("ALS"). Under the agreements the Company and Genentech will pursue treatments for these diseases that utilize the Company's encapsulated cell technology to deliver several of Genentech's growth factors, potentially including neurotrophin-4/5 ("NT-4/5"), cardiotrophin-1 ("CT-1") and Neurturin. These agreements supersede the Development Collaboration and License Agreement between the Company and Genentech entered into in March 1994 which related in part to the development of a product for the treatment of Alzheimer's disease using NGF.

The following is a brief overview of each of the agreements:

Parkinson's Agreement

The initial focus of the research under the Development Collaboration and License Agreement relating to Parkinson's disease (the "Parkinson's Agreement") is the development of a treatment for Parkinson's disease using Neurturin. Under the Parkinson's Agreement, the Company is obligated to perform certain preclinical studies and a pilot Phase I clinical study using Neurturin (unless another growth factor is agreed upon by the parties). Genentech purchased $8.3 million of the Company's Common Stock (829,171 shares at $10.01 per share) to fund the Company's expenses associated with such preclinical and pilot clinical studies. If the parties agree that additional funds are required to complete such studies, Genentech will purchase additional shares of the Company's Common Stock (at the then current market price of the Company's Common Stock) to provide the Company the additional required funding.

Genentech has the right to terminate development under the Parkinson's Agreement after the completion of each of (i) the preclinical studies, (ii) the pilot Phase I clinical trial and (iii) a specified Phase II clinical trial. Should Genentech decide to proceed to Phase II clinical trials, Genentech will purchase additional shares of the Company's Common Stock (at the then current market price of the Company's Common Stock) to fund such study. If following completion of the preclinical studies, the pilot clinical study or the Phase II study, Genentech decides to terminate further development under the Parkinson's Agreement or if Genentech terminates the Parkinson's Agreement as a result of a breach of the Parkinson's Agreement by the Company, and the funds the Company received from the sale of stock to Genentech pursuant to the Parkinson's Agreement exceed the expenses incurred by the Company in connection with such studies by more than $1 million, Genentech has the right to require the Company to repurchase from Genentech shares of Company Common Stock having a value equal to the amount of overfunding (based on the per share price at which Genentech purchased such shares of Common Stock from the Company). The Company is obligated to use reasonable efforts to complete its development obligations under the Parkinson's Agreement within a prescribed period.

In the event Genentech decides to continue with Phase III clinical trials, Genentech and the Company will share the cost of United States Phase III clinical trials and Genentech will pay for any clinical testing required to sell products developed under the Parkinson's Agreement outside the United States. Genentech will extend the Company a line of credit to provide the Company cash to fund the Company's share of the expenses of the Phase III trials in the United States. The line of credit, together with interest thereon, is repayable, at the option of the Company, in either cash or through the issuance of shares of the Company's Common Stock having a value (based on the then current market price of the Company's Common Stock) equal to the outstanding amount of the loan.

Upon commercialization, Genentech and the Company will share profits in the United States at an agreed-upon percentage, and Genentech will pay the Company a royalty based on sales outside the United States. The Company will retain manufacturing rights and will be paid manufacturing costs for products sold. In the event the Parkinson's Agreement is terminated because of the Company's default or bankruptcy, the Company is required to grant Genentech a license to the Company's cell encapsulation technology and transfer to Genentech related technology for use solely with the products developed under the Parkinson's Agreement.

Under the Parkinson's Agreement, the Company has granted Genentech an exclusive license to use the Company's cell encapsulation technology, with certain of Genentech's growth factors for the treatment of Parkinson's disease. Under the Parkinson's Agreement, the Company is also prohibited from entering into certain agreements relating to the development of treatments for Parkinson's disease using certain compounds.

ALS Agreement

Pursuant to the License Agreement Between the Company and Genentech relating to Treatment of Amyotrophic Lateral Sclerosis (the "ALS Agreement") Genentech has granted the Company a license to CT-1 and NT-4/5 to develop products for the treatment of ALS using the Company's cell encapsulation technology. Subject to certain limitations discussed below, the Company is responsible for all expenses associated with the preclinical and clinical development under the ALS Agreement and is obligated to pay Genentech royalties on net sales of products developed under the ALS Agreement. The Company's license to CT-1 and NT-4/5 is dependent upon the Company using reasonable efforts to achieve certain development milestones within prescribed periods.

The Company has the right to commercialize the product(s) outside the United States. Upon the successful completion of a specified Phase II clinical trial, Genentech has the option to obtain exclusive rights to sell products developed under the ALS Agreement in the United States by agreeing to pay an agreed upon percentage of the expenses of United States Phase III clinical development of such products. If Genentech makes such an election, the parties will share profits on sales of such products in the United States. In all events, the Company would continue to have the exclusive right to sell products developed under the ALS Agreement outside the United States, subject to a royalty payable to Genentech. In the event the ALS Agreement is terminated because of the Company's default or bankruptcy, the Company is required to grant Genentech a license to the Company's cell encapsulation technology and transfer to Genentech related technology for use solely with the products developed under the ALS Agreement.

Huntington's Agreement

Under the License Agreement Relating to Treatment of Huntington's Disease (the "Huntington's Agreement"), Genentech has granted the Company an exclusive license to CT-1 to develop, make, use and sell products for the treatment of Huntington's disease that utilize CT-1 and the Company's cell encapsulation technology. The Company is responsible for all preclinical and clinical development under the Huntington's Agreement, including all expenses associated with such development. The Company will pay Genentech a royalty based on net sales of any products developed under the Huntington's Agreement. The Company's license to CT-1 is dependent upon the Company using reasonable efforts to achieve certain development milestones within prescribed periods.

Upon the earlier of (i) the Company declining to grant a third-party sublicense under the Huntington's Agreement, and (ii) the successful completion of the specified Phase II trial on a product developed under the Huntington's Agreement, Genentech has the option to require the Company to negotiate exclusively with Genentech for a limited period regarding Genentech codeveloping and comarketing products developed under the Huntington's Agreement. In the event the parties are unable to reach an agreement, the Company would have the right to sublicense its rights under the Huntington's Agreement to a third party, provided such third-party offers the Company terms more favorable to the Company than the terms of Genentech's last offer. In the event the Huntington's Agreement is terminated because of the Company's default or bankruptcy, the Company is required to grant Genentech a license to the Company's cell encapsulation technology and transfer to Genentech related technology for use solely with products developed under the Huntington's Agreement.

Akzo Nobel Faser AG

To develop additional new membranes to be used in the Company's products and to obtain access to membrane expertise from one of the world's leading membrane companies, the Company entered into a Development and Supply Agreement with Akzo Nobel Faser AG ("Akzo") dated December 1, 1993. Akzo is the world's largest supplier of medical grade membranes. Under the terms of the agreement, Akzo and the Company are evaluating Akzo's existing membranes to determine if the membranes can be used in connection with the Company's proposed products. In addition, Akzo has begun development of improved membranes for use by the Company. The Company has agreed to reimburse Akzo for a portion of Akzo's costs incurred in the development. In the event the Company determines to use membranes developed by Akzo in the Company's products, Akzo will supply membranes to the Company at Akzo's cost plus a certain profit. Akzo will also be entitled to a royalty on sales of the Company's products utilizing Akzo's membranes. Akzo has agreed not to supply membranes to any other third party for encapsulation of cells for IN VIVO therapeutic applications. Either Akzo or the Company can terminate the Agreement in the event Akzo is unable or unwilling to supply sufficient quantity of membranes to meet the Company's needs. In such event, Akzo would license the technology necessary to manufacture the membranes to CytoTherapeutics.

The Company has the right to utilize membranes from other manufacturers in its products provided the Company pays a small royalty to Akzo on the sales of such products. The Company will also continue its internal membrane development efforts, and may utilize internally developed membranes in its products without obligation to Akzo.

For the years ending December 31, 1996, 1995 and 1994, the Company paid Akzo under the terms of the agreement $294,545, $118,000 and $146,000, respectively.

NeuroSpheres, Ltd.

In March 1994, the Company entered into a Contract Research and License Agreement with NeuroSpheres, Ltd. Under the agreement, the Company obtained from NeuroSpheres an exclusive worldwide royalty-bearing license for the commercial development and use of certain neural stem cells for transplantation to treat human disease. The Company is exploring use of these cells both as sources of differentiated neuronal cells and as genetically engineered cells that secrete selected therapeutic substances.

Upon the execution of the agreement, the Company paid $310,000 to NeuroSpheres. In addition, the Company is required to provide research funding to NeuroSpheres totaling $875,000 through February 1998, of which $625,000 had been paid through December 31, 1996. Upon the achievement of certain milestones, the Company is obligated to make payments to NeuroSpheres totaling a maximum of $3,750,000, payable at NeuroSpheres' option in cash or in shares of the Company's Common Stock, at a price of $12.50 per share. Upon commercial sale of a product utilizing the licensed technology, the Company is obligated to pay a range of royalties based on product revenues and market share, subject to certain minimum royalties. In order to maintain exclusivity, the Company is also obligated to expend an additional amount to support research related to development of products under the agreement. See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources."

The Company has filed for arbitration of a dispute that has arisen between it and NeuroSpheres, Ltd under the agreement. NeuroSpheres has sued CytoTherapeutics in Alberta, Canada, seeking to add arbitration issues. CytoTherapeutics has also filed suit in Rhode Island to prevent NeuroSpheres from licensing rights to third parties which have been exclusively licensed to the Company. The Company believes that position taken by NeuroSpheres is without merit. See "Item 3. Legal Proceedings."

Cognetix, Inc.

In February 1997, CytoTherapeutics, Inc. and Cognetix, Inc. entered into a Collaboration and Development agreement to screen selected peptides isolated by Cognetix for possible development into therapeutic products aimed at a broad range of human disease states using CytoTherapeutics' cell-based delivery technology.

Cognetix is developing proprietary conopeptides and similar compounds that are believed to act on specific target receptors in the CNS. Under the agreement, CytoTherapeutics will have access to these proprietary compounds and Cognetix's ongoing research for the purpose of selecting therapeutic molecules that could be produced with genetically modified cells and delivered to the CNS through gene therapy approaches including the use of the Company's encapsulation technology.

Under the agreement, CytoTherapeutics expects to invest approximately $1,750,000 over the next 12 months to acquire approximately a 19.9% ownership position in Cognetix. Cognetix has agreed to work exclusively with CytoTherapeutics in regard to the delivery of its proprietary peptides through the transplantation of genetically engineered cells and CytoTherapeutics has agreed to work exclusively with Cognetix in regard to such delivery of such peptides.

In the collaboration, CytoTherapeutics and Cognetix expect initially to focus on several conopeptides that are believed to act in a highly specific way as calcium, sodium and potassium channel blockers. Additionally, the companies plan to target a subfamily of conopeptides known as conantokins, which are believed to function as potent NMDA receptor antagonists. The Companies believe that, because of their high potency and selectivity for specific receptors, the conantokins and other selected conopeptides represent attractive therapeutic candidates for a broad range of neurological disorders, such as epilepsy, Parkinson's disease, chronic pain, stroke and spinal ischemia as well as ophthalmologic diseases.

Based on in vitro data, a screening committee comprised of an equal number of representatives from each of CTI and Cognetix will determine which compounds to select for IN VIVO studies and possible clinical trials. The Companies will generally share expenses associated with the development of any specific product candidate and any resulting revenues, except as otherwise determined on a product-by-product basis.

Neocrin Company

In December 1993, the Company transferred substantially all of the assets of its program for the treatment of Type I diabetes by primary cells to Neocrin Company. In exchange for such assets, the Company received preferred stock representing a 10% ownership interest in Neocrin at the time of the transaction, and Neocrin assumed certain liabilities related to the transferred assets.

The Company has retained rights to its proprietary membrane technology, which were not included in the agreement with Neocrin. The Company also agreed not to compete with Neocrin through the use or licensing of its membrane technology for the treatment of diabetes through the encapsulation of primary islet cells. In February 1995, CytoTherapeutics purchased warrants and shares of Neocrin's preferred stock for $500,000 as required in its agreement with Neocrin.

In December 1995, Neocrin completed an equity offering, in which the Company did not participate, at a valuation substantially lower than prior financings. As a result, the Company determined that the carrying value in its investment had been permanently impaired and provided a $2,331,000 valuation reserve to reduce the investment value to $200,000.

OTHER ARRANGEMENTS

The Company has expended and expects to continue to expend substantial sums to support academic research programs. To date, the Company's principal academic collaborations have been with Brown University and Dr. Patrick Aebischer at the Centre Hospitalier Universitaire Vaudois in Switzerland. Research and development expenses paid in connection with these collaborations aggregated approximately $1,337,000, $1,008,000 and $864,000 for the years ended December 31, 1996, 1995 and 1994, respectively. The Company also has a number of collaborative relationships with other academic institutions and academic researchers.

In 1989, the Company entered into an agreement with the State of Rhode Island pursuant to which an agency of the State reimbursed the Company $1,172,000 for certain research activities the Company funded at Brown. Under the terms of this grant, the Company is obligated to pay royalties ranging from three to five percent of revenues from products developed under the agreement, to a maximum of $1,758,000.

MANUFACTURING

The Company believes the ability to manufacture encapsulated cell products which are safe and effective will be a key source of competitive advantage. Thus, the Company intends to manufacture its proposed products and maintain control of this important proprietary element of its business wherever possible.

The manufacturing process for the Company's lead product (its chronic pain implant) is comprised of five modules: (i) manufacture of the fiber membrane; (ii) assembly of implants; (iii) acquisition and culturing of the cells; (iv) placement of the cells within the implant; and (v) packaging of the cell-loaded implants for shipping to the clinical site. The Company is employing this process, using current Good Manufacturing Practices ("cGMP"), for manufacturing its pain implants for use in clinical trials. Quality control tests are performed on each batch of the finished pain devices to assess sterility and potency. Only batches meeting all specifications are released for use in clinical trials. Critical equipment and processes have been validated to assure manufacturing consistency and control. A 21,000-square-foot laboratory and pilot manufacturing facility are now in operation.

Implants for clinical trials are currently made in small quantities. The commercial scale manufacture of these products is expected to require specialized automated or semiautomated equipment. The Company's current manufacturing process has been designed to facilitate the incorporation of additional automation over time. Over the last year, modifications of the process have been introduced to allow manufacture at greater volume to support pivotal efficacy trials.

The facilities and equipment required to manufacture the Company's encapsulated cell implants are different from those required to manufacture potentially competitive biopharmaceutical products.

The Company's pilot manufacturing plant, without additional expansion or increasing staffing, may not have sufficient capacity to permit the Company to produce all of the products necessary to complete clinical trials in all indications the Company may wish to develop. In addition, the Company has not yet developed the capability to manufacture any of its proposed products on a commercial scale and is unaware of any other company which has manufactured any membrane encapsulated cell product on a commercial scale. Manufacture of the Company's proposed products is expected to require specialized, automated equipment capable of forming complex polymer membranes into implants which combine media, matrices and living cells, and this process must be carried out on a precisely controlled basis, under sterile conditions in a clean-room environment. Failure to achieve commercial scale manufacturing capability or to

demonstrate consistent results using manufactured prototypes in preclinical animal studies or clinical trials could prevent or delay submission of products for regulatory approval and initiation of new development programs, which could have a materially adverse effect on the Company. There can be no assurance that the Company will be able to develop the capability of manufacturing any of its proposed products, or to identify and contract with manufacturers to produce such products, at a cost, consistency or in the quantities necessary to make a commercially viable product.

MARKETING

The Company expects to market and sell its products primarily through co-marketing, licensing or other arrangements with third parties. The Company does not have experience in sales, marketing or distribution and does not expect to develop such capabilities in the near future. Generally, the Company in its commercial arrangements with third parties intends to have the marketing of its products undertaken by its partners, although the Company will seek to retain limited marketing rights in specific markets, particularly where the product may be addressed by a limited, directed sales force.

PATENTS, PROPRIETARY RIGHTS AND LICENSES

The Company believes that proprietary protection of its inventions will be of major importance to its future business. The Company has a program of vigorously seeking and protecting intellectual property it believes may be useful in connection with its products; the Company believes that its know-how will also provide a significant competitive advantage and intends to continue to develop and protect its know-how. The Company may also, from time to time, seek to acquire licenses to important externally developed technologies.

The Company has exclusive or nonexclusive rights to a portfolio of patents and patent applications related to the encapsulation of cells and related technologies. In general, these patents and patent applications pertain to the release of neurotransmitters from encapsulated cells, use of various cell types, encapsulation devices and their manufacture, encapsulation methods and various aspects of the therapeutic use of capsules in the treatment of various diseases. Currently, the Company's U.S. patent portfolio includes rights to 21 issued patents and a number of pending patent applications.

The patent positions of pharmaceutical and biotechnology companies, including those of the Company, are uncertain and involve complex and evolving legal and factual questions. The coverage sought in a patent application can be denied or significantly reduced before or after the patent is issued. Consequently, the Company does not know whether any of its pending applications will result in the issuance of patents, or if any existing or future patents will provide significant protection or commercial advantage or will be circumvented by others. Since patent applications are secret until patents are issued in the United States or the applications are published in foreign countries, and since publication of discoveries in the scientific or patent literature often lags behind actual discoveries, the Company cannot be certain that it was the first to make the inventions covered by each of its pending patent applications or that it was the first to file patent applications for such inventions. There can be no assurance that patents will issue from the Company's pending or future patent applications or, if issued, that such patents will be of commercial benefit to the Company, afford the Company adequate protection from competing products or not be challenged or declared invalid.

In the event that a third party has also filed a patent application relating to inventions claimed in Company patent applications, the Company may have to participate in interference proceedings declared by the United States Patent and Trademark Office to determine priority of invention, which could result in substantial uncertainties and cost for the Company, even if the eventual outcome is favorable to the Company. There can be no assurance that the Company's patents, if issued, would be held valid by a court of competent jurisdiction.

A number of pharmaceutical, biotechnology and other companies, universities and research institutions have filed patent applications or have been issued patents relating to cell therapy and encapsulation and other technologies potentially relevant to or required by the Company's expected products. In particular, a third party has informed the Company that it will receive a U.S. patent which such third party asserts relates to cells for alleviating chronic pain in humans. The Company cannot predict which, if any, of such applications will issue as patents or the claims which might be allowed. The Company is aware that a number of companies have filed applications relating to cell encapsulation. The Company is also aware of a number of patent applications and patents relating to cell encapsulation or claiming use of genetically modified cells to treat disease, disorder or injury. The Company also cannot predict the impact of the application of existing patent applications and patents on future unencapsulated products. The Company is aware of one issued patent to a competitor claiming certain methods for treating defective, diseased or damaged cells in the mammalian CNS by grafting genetically modified donor cells from the same mammalian species. The Company is also aware of third-party patents and patent applications claiming rights to the neurotrophic factors (such as CNTF, NT 4/5, Neurturin, and CT-1) which the Company hopes to deliver with its technology, and to the production of these factors through the use of genetically modified cells. The Company expects to use genetically modified cells to produce these factors for use in its products.

The Company may also be required to seek licenses in regard to other cell lines, the techniques used in creating or obtaining such cell lines, the materials used in the manufacture of its implants or otherwise. If third-party patents or patent applications contain claims infringed by the Company's technology and such claims or claims in issued patents are ultimately determined to be valid, there can be no assurance that the Company would be able to obtain licenses to these patents at a reasonable cost, if at all, or be able to develop or obtain alternative technology. If the Company is unable to obtain such licenses at a reasonable cost, it may be adversely affected. There can be no assurance that the Company will not be obliged to defend itself in court against allegations of infringement of third-party patents. Patent litigation is very expensive and could consume substantial resources and create significant uncertainties. An adverse outcome in such a suit could subject the Company to significant liabilities to third parties, require disputed rights to be licensed from third parties or require the Company to cease using such technology.

The Company also relies upon trade secret protection for its confidential and proprietary information. There can be no assurance that others will not independently develop substantially equivalent proprietary information or techniques, gain access to the Company's trade secrets or disclose such technology, or that the Company can meaningfully protect its trade secrets.

The Company's policy is to require its employees, consultants, significant scientific collaborators and sponsored researchers to execute confidentiality agreements upon the commencement of an employment or consulting relationship with the Company. These agreements generally provide that all confidential information developed or made known to the individual by the Company during the course of the individual's relationship with the Company is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees and consultants, the agreements generally provide that all inventions conceived by the individual in the course of rendering services to the Company shall be the exclusive property of the Company. There can be no assurance, however, that these agreements will provide meaningful protection or adequate remedies for the Company in the event of unauthorized use, transfer or disclosure of such information or inventions.

The Company has obtained rights from universities and research institutions to technologies, processes and compounds that it believes may be important to the development of its products. These agreements typically require the Company to pay license fees, meet certain diligence obligations and, upon commercial introduction of certain products, pay royalties. These include exclusive license agreements with Brown University, Genentech, Inc. and NeuroSpheres, Ltd. to certain patents and know-how regarding present and certain future developments in encapsulation technology and neural stem cells, respectively. The Company's licenses may be canceled or converted to nonexclusive licenses if the Company fails to use the relevant technology or the Company breaches its agreement. Loss of such licenses could expose the Company to the risks of third-party patents and/or technology. There can be no assurance that any of these licenses will provide effective protection against the Company's competitors.

COMPETITION

The Company's initial products are expected to compete with a variety of therapeutic products and procedures. Major pharmaceutical companies currently offer a number of pharmaceutical products to treat chronic pain, Parkinson's disease, ALS and other diseases for which the Company's technology may be applicable, and several companies are developing methods to deliver products into the CNS. The Company believes that its products, if successfully developed, will compete with these products principally on the basis of improved and extended efficacy and safety and the overall economic benefit to the health care system offered by such products. However, many pharmaceutical and biotechnology companies are investigating new drugs and therapeutic approaches to treat neurodegenerative diseases, which may achieve new and better efficacy profiles, extend the therapeutic window, alter the prognosis of these diseases or prevent their onset.

The market for therapeutic products that address such diseases is large, and competition is intense and is expected to increase. The Company's most significant competitors are expected to be fully integrated pharmaceutical companies and more established biotechnology companies. Such competitors have significant resources and expertise in research and development, manufacturing, testing, obtaining regulatory approvals and marketing and also have significantly greater capital resources. Smaller companies may also prove to be significant competitors, particularly through collaborative arrangements with large pharmaceutical or biotechnology companies. Many of these competitors have significant products approved or in development which could be competitive with the Company's potential products, and also operate large, well-funded research and development programs. In addition, the Company competes with other companies and institutions for highly qualified scientific and management personnel.

The Company's products to treat chronic pain, if successfully developed, may experience competition from epidural and intrathecal opiates, such as morphine and its analogs, and from adjuvant analgesics, antidepressants and anticonvulsants, as well as from new therapeutics under development such as SNX 111, a conopeptide. New delivery and dose control methods for traditional pain treatments, such as morphine pumps, may also compete with the Company's products.

The Company's products to treat Parkinson's disease, if successfully developed, may compete with orally administered drugs which contain L-dopa, cell transplantation, ablative and stimulation procedures and new drugs under development. Neurotrophic factors delivered to the patient other than with the Company's encapsulation technology, such as by gene therapy, also represent potential products that may compete with the Company's products. In addition, certain companies are attempting to develop gene therapies including products (which may or may not involve neurotrophic factors) for the treatment of a number of neurodegenerative diseases, including Parkinson's disease.

The FDA has recently approved a drug to treat ALS and applications for approval of other products are pending. CytoTherapeutics believes that the only approved drug for ALS, Riluzole, will not represent significant competition for any product that demonstrates reasonable efficacy.

There can be no assurance that the Company's competitors will not succeed in developing technologies and products that are more effective than those being developed by the Company or that would render the Company's technology obsolete or noncompetitive. The Company may also face competition from companies which have filed patent applications relating to cell encapsulation and the use of genetically modified cells to treat disease, disorder or injury. The Company may be required to seek licenses from these competitors in order to commercialize certain of its proposed products and there can be no assurance that the Company will be able to obtain such licenses at a reasonable cost, if at all.

Any product that the Company succeeds in developing and for which it gains regulatory approval must then compete for market acceptance and market share. For certain of the Company's potential products, an important competitive factor will be the timing of market introduction of competitive products. Accordingly, the Company expects that an important competitive factor will be the relative speed with which the Company and its competitors can develop products, complete the clinical testing and approval processes and supply commercial quantities of a product to market. With respect to clinical testing, competition may delay progress by limiting the number of clinical investigators and patients available to test the Company's potential products.

Competition for the Company's products is also expected to be based on product efficacy, safety, the timing and scope of regulatory approvals including, in certain instances, obtaining marketing exclusivity under the Orphan Drug Act, availability of supply, marketing and sales capability, reimbursement coverage, price and patent and technology position. There can be no assurance that the Company's technology, if fully developed, will become commercially viable.

GOVERNMENT REGULATION

The manufacturing and marketing of the Company's potential products and its research and development activities are and will continue to be subject to regulation for safety and efficacy by numerous governmental authorities in the United States and other countries. In the United States, pharmaceuticals, biologicals and medical devices are subject to rigorous FDA regulation. The Federal Food, Drug and Cosmetic Act, as amended, and the Public Health Service Act, as amended, the regulations promulgated thereunder, and other federal and state statutes and regulations govern, among other things, the testing, manufacture, safety, efficacy, labeling, storage, export, record keeping, approval, marketing, advertising and promotion of the Company's potential products. Product development and approval within this regulatory framework takes a number of years and involves substantial uncertainty combined with the expenditure of substantial resources.

Three branches of the FDA, the Center for Drug Evaluation and Research, the Center for Biologics Evaluation and Research and the Center for Devices and Radiological Health, review and approve drugs, biologics and devices, respectively. The FDA has indicated to the Company that the Center for Biologics Evaluation and Research will have primary jurisdiction for premarket review of the Company's potential products that utilize the Company's encapsulated cell technology. However, the FDA has also indicated that the Center for Drug Evaluation and Research and the Center for Devices and Radiological Health will play a role in the agency's review of the Company's potential products. In addition, the FDA has published certain guidelines regarding living cells and their transplantation and has begun to develop guidelines for the regulation of xenotransplantation of cells and organs.

The steps required before the Company's potential products may be marketed in the United States include (i) preclinical laboratory and animal tests, (ii) the submission to the FDA of an application for an Investigational New Drug Exemption ("IND"), which must become effective before U.S. human clinical trials may commence, (iii) adequate and well-controlled human clinical trials to establish the safety and efficacy of the product, (iv) the submission to the FDA of a marketing authorization application(s) and (v) FDA approval of the application(s) prior to any commercial sale or shipment of the drug. Biologic product manufacturing establishments located in certain states also may be subject to separate regulatory and licensing requirements.

Preclinical tests include laboratory evaluation of the product and animal studies to assess the potential safety and efficacy of the product and its formulation as well as the quality and consistency of the manufacturing process. The results of the preclinical tests are submitted to the FDA as part of an IND, and the IND becomes effective 30 days following its receipt by the FDA, absent questions, requests for delay or objections from the FDA.

Clinical trials involve the evaluation of the product in healthy volunteers or in patients under the supervision of a qualified principal physician. Clinical trials are conducted in accordance with protocols that detail the objectives of the study, the parameters to be used to monitor safety and the efficacy criteria to be evaluated. Any product administered in a U.S. clinical trial must be manufactured in accordance with cGMP. Each protocol is submitted to the FDA as part of the IND. The protocol for each clinical study must be approved by an independent Institutional Review Board ("IRB") at the institution at which the study is conducted and the informed consent of all participants must be obtained. The IRB will consider, among other things, the existing information on the product, ethical factors, the safety of human subjects, the potential benefits of therapy and the possible liability of the institution.

Clinical development is traditionally conducted in three sequential phases. The phases may overlap, however. In Phase I, products are typically introduced into healthy human subjects or into selected patient populations to test for safety (adverse reactions), dosage tolerance, absorption and distribution, metabolism, excretion and clinical pharmacology. Phase II involves studies in a limited patient population to (i) determine the efficacy of the product for specific targeted indications and populations, (ii) determine optimal dosage and dosage tolerance and (iii) identify possible adverse effects and safety risks. When a dose is chosen and a candidate product is found to be effective and to have an acceptable safety profile in Phase II evaluations, Phase III trials are undertaken to conclusively demonstrate clinical efficacy and to test further for safety within an expanded patient population, generally at multiple study sites. In certain instances, as may be the case with the Company's potential products, the FDA permits Phase I clinical trials to be conducted using a small number of patients instead of healthy volunteers. The FDA continually reviews the clinical trial plans and results and may suggest changes or may require discontinuance of the trials at any time if significant safety issues arise. The results of the preclinical studies and clinical studies are submitted to the FDA in the form of a marketing approval authorization application.

The testing and approval process is likely to require substantial time, effort and expense, and there can be no assurance that any FDA approval will be granted on a timely basis, if at all. The time to approval is affected by a number of factors, including relative risks and benefits demonstrated in clinical trials, the availability of alternative treatments and the severity of the disease. Additional animal studies or clinical trials may be requested during the FDA review period and may delay marketing approval. After FDA approval for the initial indications and requisite approval of the manufacturing facility, further clinical trials may be necessary to gain approval for the use of the product for additional indications. The FDA may also require postmarketing testing and surveillance to monitor for adverse effects, which can involve significant expense or grant only conditional approvals.

Among the conditions for product licensure is the requirement that the prospective manufacturer's quality control and manufacturing procedures conform to cGMP. Even after product licensure approval, the manufacturer must comply with cGMP on a continuing basis, and what constitutes cGMP may change as the state of the art of manufacturing changes. Domestic manufacturing facilities are subject to regular FDA inspections for cGMP compliance (normally at least every two years), and foreign manufacturing facilities are subject to periodic FDA inspections or inspections by the foreign regulatory authorities with reciprocal inspection agreements with the FDA. Domestic manufacturing facilities may also be subject to inspection by foreign authorities.

The Orphan Drug Act provides incentives to drug manufacturers to develop and manufacture drugs for the treatment of diseases or conditions that affect fewer than 200,000 individuals in the United States. Orphan drug status can also be sought for treatments for diseases or conditions that affect more than 200,000 individuals in the United States if the sponsor does not realistically anticipate its product becoming profitable from sales in the United States. The Company expects to apply for orphan drug status for certain of its therapies. Under the Orphan Drug Act, a manufacturer of a designated orphan product can seek tax benefits, and the holder of the first FDA approval of a designated orphan product will be granted a seven-year period of marketing exclusivity in the United States for that product for the orphan indication. While the marketing exclusivity of an orphan drug would prevent other sponsors from obtaining approval of the same compound for the same indication, it would not prevent other types of products from being approved for the same use including in some cases, slight variations on the originally designated orphan product. Legislation has been introduced in the U.S. Congress in the past, and is likely to be introduced again in the future, that would restrict the extent and duration of the market exclusivity of an orphan drug, and there can be no assurance that the benefits of the existing statute will remain in effect.

Export of the Company's investigational products is governed by laws and regulations administered by the FDA. The Company has sought and received FDA clearance for export of finished products for clinical trials outside the United States. However, both the Company's past and future export practices could be subject to FDA challenge and there can be no assurance that the FDA would agree that such practices are in compliance with applicable law and regulations or that such exports would be allowed.

Proposed regulations of the FDA and other governmental agencies would place restrictions, including disclosure requirements, on researchers who have a financial interest in the outcome of their research. Under the proposed regulations, the FDA could also apply heightened scrutiny to, or exclude the results of, studies conducted by such researchers when reviewing applications to the FDA which contain such research. Certain of the Company's collaborators have stock options or other equity interests in the Company that could subject such collaborators and the Company to the proposed regulations.

There has been significant concern by regulatory agencies about the risks of cell transplantation. For example, the United Kingdom has adopted a moratorium on xenotransplantation pending further research and discussion and the EC Commission has introduced a ban in the Member Countries of the European Union on the use of "high risk material" from cattle and sheep in the manufacture of pharmaceuticals (this ban would apparently include the cells used in the Company's pain program). The FDA has also recently published proposed guidelines which impose significant constraints on the conduct of clinical trials utilizing xenotransplantation. These actions have been taken pursuant to the expressed need to protect against the spread of diseases from nonhuman cells to humans. In addition, the FDA has published a "Proposed Approach to Regulation of Cellular and Tissue-Based Products" in which the FDA proposes a plan for regulating certain products based on human cells. The Company cannot presently determine the effect of such actions nor what other actions may be taken; restrictions on the testing or use of cells (whether nonhuman or human) as human therapeutics could adversely affect the Company's product development programs and the Company.

In addition to safety regulations enforced by the FDA, the Company is also subject to regulations under the Occupational Safety and Health Act, the Environmental Protection Act, the Toxic Substances Control Act and other present and potential future supranational, foreign, federal, state and local regulations.

Outside the United States, the Company will be subject to regulations which govern the import of drug and device products from the United States or other manufacturing sites and foreign regulatory requirements governing human clinical trials and marketing approval for its products. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursements vary widely from country to country. In particular, the European Union ("EU") is revising its regulatory approach to high-tech products and representatives from the United States, Japan and the EU in the process or harmonizing and making more uniform the regulations for the registration of pharmaceutical products in these three markets. Although certain of such proposals have been adopted, the Company cannot anticipate what effect the adoption of the final forms of this harmonization or the changes to the EU high-tech procedure may have.

REIMBURSEMENT AND HEALTHCARE COST CONTROL

The Company's ability to commercialize products successfully may depend in part on the extent to which reimbursement for the costs of such products and related treatments will be available from government health administration authorities, private health insurers and others both in the United States and abroad. Significant uncertainty exists as to the reimbursement status of newly approved healthcare products. Reimbursement limitations or prohibitions with respect to any product developed by the Company could adversely affect the Company's ability to establish and maintain price levels sufficient for realization of an appropriate return on its investment in developing new therapies. Government and other third-party payers are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement for new therapeutic products approved for marketing by the FDA and by refusing, in some cases, to provide any coverage for uses of approved products for disease indications for which the FDA has not granted marketing approval. If adequate coverage and reimbursement levels are not provided by third-party payers for uses of the Company's therapeutic products, the market acceptance of these products would be adversely affected.

The revenues and profitability of healthcare-related companies may be affected by the continuing efforts of governmental and third-party payers to contain or reduce the cost of healthcare through various means. For example, in certain foreign markets pricing or profitability of prescription pharmaceuticals is subject to government control. In the United States, there have been, and the Company expects that there will continue to be, a number of federal and state proposals to implement government control over healthcare costs. Efforts at healthcare reform are likely to continue in future legislative sessions. It is uncertain what legislative proposals will be adopted or what actions federal, state or private payers for healthcare goods and services may take in response to healthcare reform proposals of legislation. The Company cannot predict the effect healthcare reforms may have on its business. Any such reforms as well as the uncertainty their proposal has engendered could have a material adverse effect on the Company.

EMPLOYEES

As of March 10, 1997, the Company had 127 full-time employees, including 27 employees with Ph.D. or M.D. degrees. Approximately 100 employees work in research and development, regulatory affairs, prototype manufacturing, quality assurance and control and laboratory support services. A number of the Company's employees have held positions with other biotechnology or pharmaceutical companies or have worked in university research programs. No employees are covered by collective bargaining agreements.

SCIENTIFIC ADVISORY BOARD

Members of the Company's Scientific Advisory Board provide the Company with strategic guidance in regard to its research and product development programs, as well as assistance in recruiting employees and collaborators. Each Scientific Advisory Board member has entered into a consulting agreement with the Company. These consulting agreements typically specify the compensation to be paid to the consultant and require that all information about the Company's products and technology be kept confidential. All of the Scientific Advisory Board members are employed by employers other than the Company and may have commitments to or consulting or advising agreements with other entities which may limit their availability to the Company. The Scientific Advisory Board members have generally agreed, however, for so long as they serve as consultants to the Company, not to provide any services to any other entities which would conflict with the services the member provides to the Company. Members of the Scientific Advisory Board offer consultation on specific issues encountered by the Company as well as general advice on the directions of appropriate scientific inquiry for the Company. In addition, certain Scientific Advisory Board members assist the Company in assessing the appropriateness of moving the Company's projects to more advanced stages. The following persons are members of the Company's Scientific Advisory Board:

Patrick Aebischer, M.D., Ph.D., is the Director of the Gene Therapy Center at the Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland, and Professor of Biomaterials, Brown University. He is also Professor of the Swiss Polytechnical School in Lausanne. Dr. Aebischer is a founding scientist of the Company and a member of its Board of Directors and Chairman of the Board of Modex Therapeutiques S.A.

James M. Anderson, M.D., Ph.D., Professor of Pathology, Institute of Pathology, Case Western Reserve University, Cleveland, Ohio.

Donald B. Calne, Ph.D., Professor of Neurology, University of Vancouver, Vancouver, Canada.

Constance L. Cepko, Ph.D., Professor, Department of Genetics, Harvard Medical School, Boston, Massachusetts.

William F. Hickey, M.D., Chairman of Pathology, Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire.

Rakesh K. Jain, Ph.D., Professor of Health Science & Technology, Harvard Medical School, Massachusetts General Hospital and Massachusetts Institute of Technology, Boston, Massachusetts.

Alan Michaels, Sc.D., Distinguished University Professor, Emeritus, North Carolina State University, Durham, North Carolina.

Peter Morris, Ph.D., Department of Surgery, Oxford University, Oxford, England.

Richard Penn, M.D., Professor of Neurosurgery, Rush Presbyterian, Chicago, Illinois.

David A. Tirrell, Ph.D., Professor of Polymer Science, University of Massachusetts, Amherst, Massachusetts.

Tony L. Yaksh, Ph.D., Professor and Vice Chairman for Research, Department of Anesthesiology, University of California, San Diego, California.

ITEM 2.

PROPERTIES

The Company's research laboratories and administrative offices are located in two adjacent leased facilities in Providence, Rhode Island, where it occupies approximately 33,000 s.f. The facilities are leased pursuant to agreements which the Company may terminate upon nine months' notice. In addition, the Company has leased a 21,000 s.f. pilot manufacturing facility and a 3,000 s.f. cell processing facility for its pain program in Lincoln, Rhode Island. This facility was financed by bonds issued by the Rhode Island Industrial Facilities Corporation. The Company has also leased additional space near its pilot plant for expanded research and development.

Due to an anticipated increase in the number of employees, the Company's current facilities may not be sufficient to accommodate the Company's needs past the end of 1997.

As a result of the need for more space, the Company has purchased land and a building in Lincoln, Rhode Island, near its pilot plant facility and has begun renovation of the purchased building and construction of a second building to provide 63,000 square feet of new space. The Company expects the new facilities to be ready for occupancy in the fourth quarter of 1997. The renovation and construction are being financed under a bank loan. The Company expects that the new facilities will provide sufficient space for at least the next two years.

ITEM 3.

LEGAL PROCEEDINGS

The Company has filed an arbitration proceeding with the International Chamber of Commerce in Toronto, Canada, against NeuroSpheres, Ltd. pursuant to the dispute settlement provisions of the Research Agreement between the Company and NeuroSpheres. The Company is seeking a determination of the particular kinds of cells CytoTherapeutics has licensed under the agreement. There is a court proceeding brought by NeuroSpheres to add claims to the arbitration in the Court of Queen's bench, Calgary, Alberta. In addition, the Company has filed a complaint and request for injunctive relief to prevent NeuroSpheres from licensing to third parties' rights NeuroSpheres has licensed exclusively to CytoTherapeutics. This action was filed in the U.S. District Court for the District of Rhode Island.

CytoTherapeutics believes that NeuroSpheres' proposed interpretation of the definition of the cells that are licensed to the Company under the Research Agreement, which is the basis of the dispute, is legally and scientifically without merit.

ITEM 4.

SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None.

PART II

ITEM 5.

MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDERS MATTERS

The Company's Common Stock is listed on the NASDAQ National Market under the Symbol "CTII". The following table sets forth, for the periods indicated, the high and low sales price as reported by the NASDAQ National Market for the Company's Common Stock.

	High	Low
1997		
Quarter Ended		
March 31, 1997 (through March 10, 1997)	$10 7\8	$ 8 7\8
1996		
Quarter Ended		
December 31, 1996	$11	$ 7 5\8
September 30, 1996	12 5\8	7 1\8
June 30, 1996	15 1\2	10 5\8
March 31, 1996	18 3\4	12 3\4
1995		
Quarter Ended		
December 31, 1995	$18 1\4	$ 8 1\4
September 30, 1995	11 3\8	6 1\4
June 30, 1995	7 5\8	5 3\4
March 31, 1995	7 1\8	3 1\4

As of March 10, 1997, there were approximately 226 holders of record of the Common Stock. The Company estimates that there are approximately 3,800 beneficial holders of the Company's Common Stock.

On December 11, 1996, the Company sold 829,171 shares of Common Stock to Genentech in connection with the Company's collaboration agreement with Genentech for $10.01 per share. The shares were issued in a transaction exempt from registration pursuant to Section 4(2) of the Securities Act.

ITEM 6.
SELECTED FINANCIAL DATA

(in thousands, except per share amounts)	Year Ended December 31, 1996	1995	1994	1993	1992
STATEMENT OF OPERATIONS DATA					
Revenue from collaborative agreements	$ 7,104	$11,761	$ 1,250	$ 190	$ 325
Research and development expenses	17,130	14,730	13,514	11,807	8,204
Loss on other investment	--	(2,331)	--	--	--
Gain on sale of technology	--	--	--	1,780	--
Net loss	(13,759)	(8,891)	(16,461)	(12,544)	(9,975)
Net loss per share (1)	(0.89)	(0.69)	(1.52)	(1.47)	(1.33)
Shares used in computing net loss per share (1)	15,430	12,799	10,833	8,541	7,474

(in thousands)	December 31, 1996	1995	1994	1993	1992
BALANCE SHEET DATA					
Cash, cash equivalents and marketable securities	$ 42,607	$44,192	$ 19,138	$30,855	$27,208
Total assets	58,397	56,808	32,194	40,996	35,239
Long-term debt, including capitalized leases	8,223	5,441	5,641	3,428	3,896
Redeemable common stock	8,159	--	--	--	--
Stockholders' equity	34,747	45,391	22,637	34,509	29,203

(1) See Note 2 to consolidated financial statements.

ITEM 7.

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

The following discussion of the financial condition and results of operations of CytoTherapeutics, Inc. should be read in conjunction with the accompanying consolidated financial statements and the related footnotes thereto.

OVERVIEW

Since its inception in August 1988, the Company has been primarily engaged in research and development of human therapeutic products. No revenues have been derived from the sale of any products, and the Company does not expect to receive revenues from product sales for at least several years. The Company expects that its research and development expenditures will increase substantially in future years as research and product development efforts accelerate and clinical trials are initiated or broadened. The Company has incurred annual operating losses since inception and expects to incur substantial operating losses in the future. As a result, the Company is dependent upon external financing from equity and debt offerings and revenues from collaborative research arrangements with corporate sponsors to finance its operations. The Company's results of operations have varied significantly from year to year and quarter to quarter and may vary significantly in the future due to the occurrence of material, nonrecurring events, including without limitation, the receipt of one-time, nonrecurring licensing payments.

RESULTS OF OPERATIONS
YEARS ENDED DECEMBER 31, 1996, 1995 AND 1994

Revenues from collaborative agreements totaled $7,104,000, $11,761,000 and $1,250,000 for the years ending December 31, 1996, 1995 and 1994, respectively. Revenues in 1996 and 1995 were earned solely from a Development, Marketing and License Agreement with Astra AB, which was signed in March 1995. Included in the 1995 revenue was a one-time licensing fee from Astra of $5,000,000. During 1994, the Company derived research revenue from an agreement with Genentech, Inc.

Research and development expenses totaled $17,130,000 in 1996, as compared to $14,730,000 in 1995 and $13,514,000 in 1994. The increase of $2,400,000, or 16%, from 1995 to 1996 was primarily attributable to increases in the number of research, development and production staff, spending for company-sponsored research at academic and other institutions and scientific consulting. The increase of $1,216,000, or 9%, from 1994 to 1995 was principally due to an increase in the number of research and development staff, as well as increased occupancy costs related to the expansion of pilot manufacturing and research facilities.

General and administrative expenses were $5,679,000 for the year ended December 31, 1996, compared with $4,620,000 in 1995 and $4,723,000 in 1994. The increase of $1,059,000, or 23%, from 1995 to 1996 was principally due to increases in the number of administrative personnel, one-time hiring bonuses, as well as, consulting costs attributable to the establishment of Modex Therapeutiques S.A., a 50%-owned Swiss subsidiary. The decrease of $103,000, or 2%, from 1994 to 1995 was primarily attributable to the absence of a one-time expense of $275,000 incurred in 1994 related to the exercise of a release from the Company's further obligations in connection with its collaboration with Medtronic, partially offset by legal expenses incurred in 1995 in connection with the closing of the collaborative agreement with Astra.

Interest income for the years ended December 31, 1996, 1995 and 1994 totaled $2,260,000, $1,714,000 and $963,000, respectively. The average cash and investment balances were $37,600,000, $26,907,000 and $24,537,000 in 1996, 1995 and 1994, respectively. The increase in interest income from 1995 to 1996 was principally due to higher average balances. The increase in interest income from 1995 to 1994 was attributable to significantly higher interest rates, as well as higher average balances.

In 1996, interest expense was $618,000, compared with $685,000 in 1995 and $437,000 in 1994. The decrease in 1995 to 1996 is principally due to decreasing balances of capitalized lease obligations only partially offset by additional collateralized loan obligations. The increases in 1995 and 1994 were primarily attributable to additional facility and equipment financings related to the construction and expansion of the Company's pilot manufacturing facilities through capitalized leases, collateralized loans and direct financing transactions.

In December 1995, the Company recognized a loss on its investment in Neocrin Company of $2,330,848, as it determined that the carrying value in its investment had been permanently impaired. The valuation reserve of $2,330,848 reduced the valuation of the investment to $200,000.

The net loss in 1996, 1995 and 1994 was $13,759,000, $8,891,000 and $16,461,000, respectively. The loss per share was $0.89, $0.69 and $1.52 in 1996, 1995 and 1994, respectively. The decreased loss in 1996 and 1995 is principally due to revenue earned for research funding under the Company's agreement with Astra. The 1995 loss also contains revenue for the nonrecurring licensing payment of $5,000,000 from Astra.

LIQUIDITY AND CAPITAL RESOURCES

Since its inception, the Company has financed its operations through the sale of common and preferred stock, the issuance of long-term debt and capitalized lease obligations, revenues from collaborative agreements, research grants and interest income.

The Company had unrestricted cash, cash equivalents and marketable securities totaling $42,607,000 at December 31, 1996. Cash equivalents and marketable securities are invested in agencies of the United States government, investment grade corporate bonds and money market funds.

The Company currently occupies all of its laboratory and administrative office space, other than that at its pilot manufacturing site, under the terms of operating leases subject to termination upon nine months' notice by the Company. As a result of an anticipated increase in the number of employees, the Company's current facilities will not be sufficient to accommodate the Company's needs past the end of 1997. The Company has purchased land and a building and began construction of a new headquarters and laboratory facility in the fourth quarter of 1996. The total cost of the project is estimated to be $7,600,000.

In October 1996, the Company obtained financing of $5,500,000 from a bank, secured by a mortgage on the new facility. The Company had borrowed $1,450,000 under this agreement as of December 31, 1996. Any unused commitment expires October 31, 1997. Quarterly principal payments of 1/40 of the loan balance commence September 30, 1997 with the balance due at maturity, October 2001. The loan agreement requires the Company provide cash collateral in the amount of 25% of the obligation if the Company's unencumbered cash balance falls below $25,000,000, 50% cash collateral if the Company's unencumbered cash balance falls below $20,000,000 and full cash collateral if the Company's unencumbered cash balance falls below $15,000,000. The Company expects to pay the remaining costs from its funds.

In May 1996, the Company secured an equipment loan facility with a bank in the amount of $2,000,000. The Company has borrowed $741,000 under this agreement as of December 31, 1996. The loan requires interest payments only for the first year; principal payments are payable over a three-year period beginning August 1997. Any unused commitment expires on May 15, 1997. The loan is secured by equipment purchased with the proceeds of the credit facility.

In February 1997, CytoTherapeutics and Cognetix, Inc. entered into a Collaboration and Development Agreement to screen selected peptides isolated by Cognetix for possible development into therapeutic products aimed at a broad range of human disease states using CytoTherapeutics' cell-based delivery technology. Based on IN VITRO data, a screening committee comprised of an equal number of representatives from each of CytoTherapeutics and Cognetix will determine which compounds to select for IN VIVO studies and possible clinical trials. The companies will generally share expenses associated with the development of any specific product candidate and any resulting revenues, except as otherwise determined on a product-by-product basis. As part of the agreement with Cognetix, CytoTherapeutics has purchased $250,000 of Cognetix preferred stock and subject to certain milestones, is obligated to purchase a total of $1,750,000 of Cognetix stock over the next year.

In November 1996, the Company signed collaborative development and licensing agreements with Genentech, Inc. relating to the development of products using the Company's technology to deliver certain of Genentech's proprietary growth factors to treat Parkinson's disease, Huntington's disease and amyotrophic lateral sclerosis ("ALS").

Under the terms of the agreement for Parkinson's disease, Genentech purchased 829,171 shares of common stock for $8,300,000 to fund development of products to treat Parkinson's disease. Additional equity purchases and other funding by Genentech is available for future clinical development as determined by the parties. If the Parkinson's program is terminated and the funds the Company received from the sale of stock to Genentech pursuant to the Parkinson's agreement exceed the expenses incurred by the Company in connection with such studies by more than $1 million, Genentech has the right to require the Company to repurchase from Genentech shares of Company Common Stock having a value equal to the amount of the overfunding, based upon the share price paid by Genentech. As such, the Common Stock purchased by Genentech is classified as Redeemable Common Stock until such time as the related funds are expended on the program. Upon commercialization, Genentech and the Company will share profits in the United States at an agreed-upon percentage, and Genentech will pay the Company a royalty based upon deals outside the United States. The Company retains manufacturing rights and will be paid manufacturing costs for products sold.

The Company also licensed certain growth factors for the treatment of both Huntington's disease and amyotrophic lateral sclerosis ("ALS"). Under the terms of the agreements, the Company is responsible for conducting and funding all preclinical and clinical development, subject to specified rights of Genentech to participate in the development and marketing of the proposed products. Should Genentech share in the development cost of the proposed products, the companies will share profits at a negotiated percentage upon commercialization. Should Genentech elect not to participate in the development, upon commercialization, the Company will pay Genentech an agreed-upon royalty based upon sales. These agreements supersede the Development Collaboration and License Agreement between the Company and Genentech entered into in March 1994.

In July 1996, the Company invested $2 million in Modex, a 50%-owned Swiss subsidiary, to pursue extensions of the Company's encapsulated-cell technology for specific applications outside the central nervous system, with a commitment to invest Sfr 2.4 million on the second anniversary of the agreement if Modex has, prior to that time, achieved one or more specified scientific milestones. An investment fund, managed by a Swiss private bank, has invested $2 million in Modex, with a commitment to invest Sfr 1.2 million on the second anniversary of the agreement, in exchange for a 15% stake in the company. The remaining 35% of Modex is owned by the scientific founders of Modex. The Company has granted to Modex an exclusive, royalty-bearing license to the Company's proprietary encapsulated-cell technology for three applications outside the central nervous system: diabetes, obesity and anemia. Modex granted the Company an exclusive royalty-bearing license to any technology developed or obtained by Modex for application to diseases, conditions and disorders which affect the central nervous system. In addition to its royalty obligations, the Company is also obligated to issue to Modex up to 300,000 shares of the Company's Common Stock on the achievement by Modex of certain scientific milestones. Substantially all of these shares are expected to be awarded by Modex as incentive compensation to Modex's founding scientists and other researchers upon achievement of such milestones.

Under the terms of its agreement with the investment fund, during the first two years following closing, the Company has the right to acquire the fund's interest in Modex for the greater of a 30% annual return or Sfr 3.6 million. Following this two-year period, the Company has the right to purchase the fund's interest at 110% of fair market value. Following the second anniversary of the agreement and prior to the tenth anniversary of the agreement, if no public market exists for the common stock of Modex, the fund has the right to require the Company to purchase the fund's interest in Modex for 90% of the fair market value of such interest. Any purchase made by the Company under any of the circumstances described in this paragraph may be made at the Company's option in cash or shares of the Company's Common Stock valued at the market price at the time of purchase. The Company also has the right to acquire, and the founders have the right to require the Company to acquire, the founders' initial equity interest in Modex in exchange for the issuance of an aggregate of approximately 92,000 shares of the Company's Common Stock.

In March 1995, the Company signed a collaborative research and development agreement with Astra for the development and marketing of certain encapsulated-cell products to treat pain. Astra made an initial, nonrefundable payment of $5,000,000 and may make up to $16,000,000 in additional payments subject to the achievement of certain development milestones. Under the agreement, the Company is obligated to conduct certain research and development pursuant to a four-year research plan agreed upon by the parties. Over the term of the research plan, the Company expects to receive annual research payments from Astra of $5 million to $7 million, which the Company expects should approximate the research and development costs incurred by the Company under the plan. Subject to the successful development of such products and obtaining necessary regulatory approvals, Astra is obligated to conduct all clinical trials of products arising from the collaboration and to seek approval for their sale and use. Astra has the exclusive worldwide right to market products covered by the agreement. Until the later of either the last to expire of all patents included in the licensed technology or a specified fixed term, the Company is entitled to a royalty on the worldwide net sales of such products in return for the license granted to Astra and the Company's obligation to manufacture and supply products. Astra has the right to terminate the agreement after April 1, 1998.

In March 1994, the Company entered into a contract research and license agreement with NeuroSpheres, Ltd. Under the agreement, the Company obtained from NeuroSpheres an exclusive worldwide royalty-bearing license for the commercial development and use of certain neural stem cells for transplantation to treat human disease. Terms of the agreement provide future research funding of up to $250,000 through February 1998 based upon performance of certain obligations by NeuroSpheres. Upon the achievement of certain milestones, the Company will make payments to NeuroSpheres totaling a maximum of $3,750,000, payable at NeuroSpheres' option, in cash or in shares of the Company's common stock at a price of $12.50 per share. Upon commercial sale of a product utilizing the licensed technology, the Company is obligated to pay a range of royalties based on product revenues and market share, subject to certain minimum royalties. In order to maintain exclusivity, the Company is also obligated to expend additional amounts to support research related to development of products under the agreement.

The Company has instituted an arbitration proceeding in Alberta, Canada, against NeuroSpheres, Ltd. pursuant to the dispute settlement provisions of the research agreement between the Company and NeuroSpheres. The Company is seeking a determination of the definition of the cells to which CytoTherapeutics has rights under the agreement. In addition, the Company has filed a complaint and request for injunctive relief to prevent NeuroSpheres from licensing to third parties rights it has licensed exclusively to CytoTherapeutics. This action was filed in the United States District Court for the District of Rhode Island. CytoTherapeutics believes that NeuroSpheres proposed interpretation of the definition of the cells licensed is legally and scientifically without merit.

Substantial additional funds will be required to support the Company's research and development programs, for acquisition of technologies and intellectual property rights, for preclinical and clinical testing of its anticipated products, pursuit of regulatory approvals, acquisition of capital equipment, expansion of laboratory and office facilities, establishment of production capabilities and for general and administrative expenses. Until the Company's operations generate significant revenues from product sales, cash reserves and proceeds from equity and debt offerings, and funding from collaborative arrangements will be used to fund operations.

The Company intends to pursue opportunities to obtain additional financing in the future through equity and debt financings, lease agreements related to capital equipment, grants and collaborative research arrangements. The source, timing and availability of any future financing will depend principally upon equity market conditions, interest rates and, more specifically, on the Company's continued progress in its exploratory, preclinical and clinical development programs. There can be no assurance that such funds will be available on favorable terms, if at all.

The Company expects that its existing capital resources, revenues from collaborative agreements and income earned on invested capital will be sufficient to fund its operations into the second half of 1998. The Company's cash requirements may vary, however, depending on numerous factors. Lack of necessary funds may require the Company to delay, scale back or eliminate some or all of its research and product development programs or to license its potential products or technologies to third parties.

CAUTIONARY FACTORS RELEVANT TO FORWARD-LOOKING INFORMATION

A number of factors have affected and in the future could affect the Company's results and could cause actual results and needs of the Company to vary materially from forward-looking statements made in this Annual Report by the Company on the basis of management's current expectations. The business in which the Company is engaged is rapidly changing, extremely competitive and involves a high degree of risk, and accuracy with respect to forward-looking projections is difficult.

There can be no assurance that the substantial funding required by the Company will be available (whether from new or existing corporate partnerships, equity offerings or otherwise) when needed, if at all, or on terms acceptable to the Company. None of the Company's products or proposed products has been approved for commercial sale or entered Phase II or III clinical trials. Even if the Company's proposed products appear to be promising at an early stage of research or development, such products may later prove to be ineffective, have adverse side effects, fail to receive necessary regulatory approvals, be difficult or uneconomical to manufacture or market on a commercial scale, be adversely affected by government price controls or limitations on reimbursement, be precluded from commercialization by proprietary rights of third parties, be subject to significant competition from other products or suffer delays in development that could adversely affect their value. Cell transplantation is subject to increasing regulation which may adversely affect the Company; in particular, the use of xenogeneic cells has come under much more restrictive regulation recently. Patent protection for the Company's products is important, but highly uncertain. In addition, there can be no assurance that the Company will be able to obtain the intellectual property needed to commercialize its proposed products. For further information, see Exhibit 99 to the Company's Annual Report on Form 10-K.

ITEM 8.

FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT AUDITORS

Stockholders and Board of Directors
CytoTherapeutics, Inc.

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

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

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

/s/Ernst + Young LLP

Boston, Massachusetts

February 6, 1997, except for Note 17, as
to which the date is February 13, 1997

CytoTherapeutics, Inc.

CONSOLIDATED BALANCE SHEETS

	December 31, 1996	December 31, 1995
ASSETS		
Current assets:		
Cash and cash equivalents	$ 19,921,584	$ 9,548,579
Marketable securities	22,685,855	34,643,160
Accrued interest receivable	653,190	793,215
Other current assets	491,582	678,070
Total current assets	43,752,211	45,663,024
Property, plant and equipment, net	10,732,102	7,892,763
Other assets, net	3,912,430	3,251,718
Total assets	$ 58,396,743	$ 56,807,505
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,850,925	$ 623,968
Accrued expenses	2,308,844	2,458,451
Deferred revenue	1,859,092	1,750,000
Current maturities of capitalized lease obligations	553,557	668,325
Current maturities of long-term debt	695,570	474,245
Total current liabilities	7,267,988	5,974,989
Capitalized lease obligations, less current maturities	3,971,594	4,498,957
Long-term debt, less current maturities	4,251,008	942,181
Commitments and contingencies		
Redeemable common stock, $.01 par value; 815,065 shares issued and outstanding at December 31, 1996	8,158,798	--
Stockholders' equity:		
Convertible preferred stock, $.01 par value; 1,000,000 shares authorized; no shares issued and outstanding	--	--
Common stock, $.01 par value; 45,000,000 shares authorized; 15,614,333 and 15,176,997 shares issued and outstanding at December 31, 1996 and 1995, respectively	156,144	151,770
Additional paid-in capital	107,649,659	104,271,658
Accumulated deficit	(72,922,674)	(59,163,536)
Unrealized gains on marketable securities	14,760	131,486
Cumulative translation adjustment	(60,416)	--
Deferred compensation	(90,118)	--
Total stockholders' equity	34,747,355	45,391,378
Total liabilities and stockholders' equity	$ 58,396,743	$ 56,807,505

See accompanying notes to consolidated financial statements.

CytoTherapeutics, Inc.

CONSOLIDATED STATEMENTS OF OPERATIONS

	Year ended December 31, 1996	1995	1994
Revenue from collaborative agreements	$ 7,104,284	$11,760,666	$ 1,250,000
Operating expenses:			
Research and development	17,130,392	14,729,703	13,513,685
General and administrative	5,678,783	4,619,733	4,722,597
	22,809,175	19,349,436	18,236,282
Loss from operations	(15,704,891)	(7,588,770)	(16,986,282)
Other income (expense):			
Interest income	2,259,886	1,713,849	962,942
Interest expense	(618,213)	(685,470)	(437,345)
Other income	404,128	--	--
Currency exchange loss	(100,048)	--	--
Loss on other investment	--	(2,330,848)	--
	1,945,753	(1,302,469)	525,597
Net loss	$(13,759,138)	$(8,891,239)	$(16,460,685)
Net loss per share	$ (.89)	$ (.69)	$ (1.52)
Shares used in computing net loss per share	15,429,564	12,799,008	10,833,008

See accompanying notes to consolidated financial statements.

CytoTherapeutics, Inc.

Consolidated Statements of Changes
in Redeemable Common Stock and Stockholders' Equity

	Redeemable Common Stock		Common Stock		Additional Paid-in	Accumulated '
	Shares	Amount	Shares	Amount	Capital	Deficit
Balances, January 1, 1994	--	$ --	10,467,553	$104,676	$ 68,861,427	$(33,811,612)
Issuance of common stock	--	--	375,873	3,759	3,706,274	--
Exercise of stock options	--	--	160,142	1,601	441,257	--
Amortization of deferred compensation	--	--	--	--	--	--
Change in unrealized losses on marketable securities	--	--	--	--	--	--
Net loss	--	--	--	--	--	(16,460,685)
Balances, December 31, 1994	--	--	11,003,568	110,036	73,008,958	(50,272,297)
Issuance of common stock	--	--	4,070,598	40,706	30,797,086	--
Exercise of stock options	--	--	102,831	1,028	465,614	--
Amortization of deferred compensation	--	--	--	--	--	--
Change in unrealized gains on marketable securities	--	--	--	--	--	--
Net loss	--	--	--	--	--	(8,891,239)
Balances, December 31, 1995	--	--	15,176,997	151,770	104,271,658	(59,163,536)
Issuance of common stock	--	--	168,260	1,683	1,526,118	--
Issuance of common stock under the stock purchase plan	--	--	18,338	184	140,557	--
Exercise of warrants	--	--	6,128	61	(61)	--
Issuance of common stock to consultants and employees	--	--	48,700	487	429,079	--
Common stock issued pursuant to employee benefit plan	--	--	13,719	137	162,231	--
Issuance of redeemable common stock	829,171	8,300,000	--	--	--	--
Redeemable common stock lapses	(14,106)	(141,202)	14,106	141	141,061	--
Exercise of stock options	--	--	168,085	1,681	979,016	--
Amortization of deferred compensation	--	--	--	--	--	--
Change in unrealized gains on marketable securities	--	--	--	--	--	--
Change in cumulative translation adjustment	--	--	--	--	--	--
Net loss	--	--	--	--	--	(13,759,138)
Balances, December 31, 1996	815,065	$8,158,798	15,614,333	$156,144	$107,649,659	$(72,922,674)

	Unrealized Gains (Losses) on Marketable Securities	Cumulative Translation Adjustments	Deferred Compensation	Total Stockholders Equity
Balances, January 1, 1994	$ --	$ --	$(645,291)	$ 34,509,200
Issuance of common stock	--	--	--	3,710,033
Exercise of stock options	--	--	--	442,858
Amortization of deferred compensation	--	--	536,020	536,020
Change in unrealized losses on marketable securities	(100,356)	--	--	(100,356)
Net loss	--	--	--	(16,460,685)
Balances, December 31, 1994	(100,356)	--	(109,271)	22,637,070
Issuance of common stock	--	--	--	30,837,792
Exercise of stock options	--	--	--	466,642
Amortization of deferred compensation	--	--	109,271	109,271
Change in unrealized gains on marketable securities	231,842	--	--	231,842
Net loss	--	--	--	(8,891,239)
Balances, December 31, 1995	131,486	--	--	45,391,378
Issuance of common stock	--	--	--	1,527,801
Issuance of common stock under the stock purchase plan	--	--	--	140,741
Exercise of warrants	--	--	--	--
Issuance of common stock to consultants and employees	--	--	(185,201)	244,365
Common stock issued pursuant to employee benefit plan	--	--	--	162,368
Issuance of redeemable common stock	--	--	--	--
Redeemable common stock lapses	--	--	--	141,202
Exercise of stock options	--	--	--	980,697
Amortization of deferred compensation	--	--	95,083	95,083
Change in unrealized gains on marketable securities	(116,726)	--	--	(116,726)
Change in cumulative translation adjustment	--	(60,416)	--	(60,416)
Net loss	--	--	--	(13,759,138)
Balances, December 31, 1996	$ 14,760	$(60,416)	$ (90,118)	$ 34,747,355

See accompanying notes to consolidated financial statements.

CytoTherapeutics, Inc.

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended December 31, 1996	1995	1994
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$(13,759,138)	$ (8,891,239)	$(16,460,685)
Adjustments to reconcile net loss to net cash used for operating activities:			
Depreciation and amortization	1,671,068	1,465,351	1,821,746
Amortization of deferred compensation	95,083	109,271	536,020
Common stock issued as compensation	406,733	--	--
Loss on other investment	--	2,330,848	--
Loss on sale of fixed assets	871	--	--
Changes in operating assets and liabilities:			
Accrued interest receivable	140,025	(606,395)	158,018
Other current assets	220,688	(293,909)	(31,814)
Accounts payable and accrued expenses	1,077,350	183,680	567,681
Deferred revenue	109,092	1,750,000	--
Net cash used in operating activities	(10,038,228)	(3,952,393)	(13,409,034)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Purchases of marketable securities	(3,083,621)	(48,127,842)	(11,967,992)
Proceeds from sales of marketable securities	14,924,200	24,139,057	24,005,704
Purchase of property, plant and equipment	(4,412,190)	(1,405,522)	(3,729,500)
Proceeds on sale of fixed assets	3,000	--	--
Purchase of other investment	--	(500,100)	--
Acquisition of other assets	(811,305)	(550,116)	(1,133,018)
Net cash provided by (used in) investing activities	6,620,084	(26,444,523)	7,175,194

CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of redeemable common stock	8,300,000	--	--
Proceeds from issuance of common stock	1,668,542	30,837,792	3,710,033
Proceeds from the exercise of stock options and warrants ...	980,697	466,642	442,858
Proceeds from debt financings	4,059,947	859,832	3,318,455
Repayments of debt and lease obligations	(1,171,926)	(934,661)	(815,531)
Net cash provided by financing activities	13,837,260	31,229,605	6,655,815
Effect of exchange rate on cash and cash equivalents	(46,111)	--	--
Increase in cash and cash equivalents	10,373,005	832,689	421,975
Cash and cash equivalents, January 1	9,548,579	8,715,890	8,293,915
Cash and cash equivalents, December 31	$ 19,921,584	$ 9,548,579	$ 8,715,890
Supplemental disclosure of cash flow information:			
Interest paid	$ 616,671	$ 700,806	$ 412,020

See accompanying notes to consolidated financial statements.

CytoTherapeutics, Inc.

Notes to Consolidated Financial Statements
December 31, 1996 and 1995

1. NATURE OF BUSINESS

CytoTherapeutics, Inc. (the "Company") is a biopharmaceutical company engaged in the development of proprietary products and technology designed to deliver therapeutic substances to the central nervous system.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include accounts of the Company and Modex Therapeutiques S.A., a 50%-owned subsidiary. Significant intercompany accounts have been eliminated in consolidation.

USE OF ESTIMATES

The preparation of the 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.

CASH, CASH EQUIVALENTS AND MARKETABLE SECURITIES

Cash and cash equivalents include funds held in investments with original maturities of three months or less. The Company's policy regarding selection of investments, pending their use, is to insure safety, liquidity and capital preservation while obtaining a reasonable rate of return. Marketable securities consist of investments in agencies of the U.S. government, investment grade corporate notes and money market funds. The fair values for marketable securities are based on quoted market prices.

The Company determines the appropriate classification of cash equivalents and marketable securities at the time of purchase and reevaluates such designation as of each balance sheet date. The Company has classified such holdings as available-for-sale securities, which are carried at fair value, with unrealized gains and losses reported as a separate component of stockholders' equity.

PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment, including that held under capitalized lease obligations, is stated at cost and depreciated using the straight-line method over the estimated life of the respective asset, as follows:

Building and improvements	1 - 15 years
Machinery and equipment	4 - 10 years
Furniture and fixtures	3 - 10 years

PATENT COSTS

The Company capitalizes certain patent costs related to patent applications. Accumulated costs are amortized over the estimated economic life of the patents, not to exceed 17 years, using the straight-line method, commencing at the time the patent is issued. Costs related to patent applications are written off to expense at the time such patents are deemed to have no continuing value. At December 31, 1996 and 1995, total costs capitalized were $2,887,000 and $2,184,000 and the related accumulated amortization was $126,000 and $64,000, respectively. Patent expense totaled $249,000, $195,000 and $193,000 in 1996, 1995 and 1994, respectively.

STOCK-BASED COMPENSATION

The Company grants qualified stock options for a fixed number of shares to employees with an exercise price equal to the fair market value of the shares at the date of grant. The Company accounts for stock option grants in accordance with APB Opinion No. 25, Accounting for Stock Issued to Employees, and, accordingly, recognizes no compensation expense for qualified stock option grants.

For certain nonqualified stock options granted, the Company recognizes as compensation expense the excess of the deemed fair value of the common stock issuable upon exercise of such options over the aggregate exercise price of such options. The compensation is amortized over the vesting period of each option or the recipient's term of employment, if shorter.

INCOME TAXES

The liability method is used to account for income taxes. Deferred tax assets and liabilities are determined based on differences between financial reporting and income tax bases of assets and liabilities as well as net operating loss carryforwards and are measured using the enacted tax rates and laws that are expected to be in effect when the differences reverse. Deferred tax assets may be reduced by a valuation allowance to reflect the uncertainty associated with their ultimate realization.

REVENUE FROM COLLABORATIVE AGREEMENTS

Revenues from collaborative agreements are recognized as earned upon either the incurrence of reimbursable expenses or the achievement of certain milestones. Payments received in advance of research performed are designated as deferred revenue.

FOREIGN CURRENCY TRANSLATION

Assets and liabilities of operations outside the United States are translated into United States dollars using current exchange rates; revenue and expense items are translated into United States dollars using a weighted average exchange rate for the period. The gains and losses resulting from such translation are accumulated as a separate component of shareholders' equity, whereas gains and losses resulting from foreign currency transactions generally are included in results of operations.

NET LOSS PER SHARE

Net loss per share is computed using the weighted average number of shares of common stock outstanding. Common equivalent shares from stock options and warrants are excluded, as their effect is antidilutive.

IMPACT OF RECENTLY ISSUED ACCOUNTING STANDARDS

In 1996, the Company has adopted Statement No. 121, Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of, which requires impairment losses to be recorded on long-lived assets used in operations when indicators of impairment are present and the undiscounted cash flows estimated to be generated by those assets are less than the assets' carrying amount. Statement 121 also addresses the accounting for long-lived assets that are expected to be disposed of. The adoption of Statement 121 had no impact on the financial position or results of operations of the Company as no indications of impairment currently exist.

RECLASSIFICATIONS

Certain reclassifications have been made to conform prior-year balances to the current year presentation.

3. SWISS SUBSIDIARY

On July 10, 1996, the Company established Modex Therapeutiques S.A. ("Modex") in Lausanne, Switzerland, to pursue extensions of the Company's technology for certain applications outside the central nervous system. In exchange for 50% of the then outstanding common shares of Modex, the Company provided Sfr 2,400,000 (approximately $2,000,000) of debt and equity financing and, subject to Modex achieving specified scientific milestones, committed to invest an additional Sfr 2,400,000 in July 1998. The Company has granted Modex an exclusive license to its technology for three applications, diabetes, obesity and anemia, in return for royalty payments and the obligation to issue to Modex up to 300,000 shares of the Company's Common Stock upon the achievement by Modex of certain scientific milestones. Substantially all of these shares are expected to be awarded by Modex as incentive compensation to Modex's founding scientists and other researchers upon achievement of such milestones. In return, Modex granted the Company an exclusive, royalty-bearing license to any technology developed or obtained by Modex for application to diseases, conditions and disorders which affect the central nervous system.

In addition to the founders of Modex, who own 35% of the common equity and include a member of the Company's Board of Directors, the other principal investor, a private Swiss bank, provided cash and a convertible subordinated note for Sfr 2,400,000 (approximately $2,000,000) for the remaining 15% equity interest and are committed to invest an additional Sfr 1,200,000 in July 1998. The note is due on the earlier of an initial public offering of the Modex common stock or July 2006 and may be converted into the underlying 15% equity interest at any time. The convertible subordinated note is non-interest bearing. So long as there is no public market for Modex stock, the holder can require the Company to purchase the note and equity in Modex for 90% of the fair value of the underlying equity interest after July 1998, but before July 2006. Conversely, at any time after July 1998, the Company may purchase the note and equity in Modex for 110% of such fair value. Prior to July 1998, the Company may purchase the note for the greater of Sfr 3,600,000 or Sfr 2,400,000 and 30% simple interest thereon.

At any time, the Company also has the right to acquire, and the Modex founders have the right to sell to the Company, the founders' 35% equity interest in exchange for the issuance of approximately 92,000 shares of the Company's common stock.

Any purchase made by the Company under any of the circumstances described above may be made at the Company's option in cash or shares of the Company's Common Stock valued at the quoted market price at the time of purchase. The Company has included the operating results of Modex in the accompanying consolidated financial statements since its inception and the resulting minority interest has not been material.

4. MARKETABLE SECURITIES

The following is a summary of available-for-sale securities:

	December 31, 1996			
	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. government securities	$ 2,007,823	$ --	$(14,023)	$ 1,993,800
U.S. corporate securities	21,651,507	28,784	--	21,680,291
Total debt securities	$23,659,330	$28,784	$(14,023)	23,674,091
Debt securities included in cash and cash equivalents				(988,236)
Debt securities included in marketable securities				$22,685,855

	December 31, 1995			
	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. government securities	$ 2,011,235	$ --	$(18,535)	$ 1,992,700
U.S. corporate securities	33,499,056	150,021	--	33,649,077
Total debt securities	$35,510,291	$150,021	$(18,535)	35,641,777
Debt securities included in cash and cash equivalents				(998,617)
Debt securities included in marketable securities				$34,643,160

Maturities of marketable securities held at December 31, 1996, are as follows:

Less than one year	$21,680,291
One through five years	1,993,800
	$23,674,091

5. OTHER INVESTMENT

In December 1993, the Company sold substantially all of the assets of its primary cell diabetes product development program, including related equipment, and licensed related intellectual property to Neocrin Company in exchange for preferred stock representing a then 10% ownership interest with a fair market value of $2,030,748. The transaction resulted in a gain before closing expenses of $1,957,913 and a net gain of $1,780,209. In February 1995, the Company purchased an additional $500,100 of Neocrin's preferred stock at the current market value, as required under the original purchase agreement.

In December 1995, Neocrin completed an equity offering, in which the Company did not participate, at a valuation substantially lower than prior financings. As a result, the Company determined that the carrying value in its investment had been permanently impaired and provided a $2,330,848 valuation reserve to reduce the investment value to $200,000.

6. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consists of the following:

	December 31, 1996	December 31, 1995
Land	$ 278,774	$ --
Building and improvements	6,207,679	6,434,043
Machinery and equipment	7,554,825	5,941,521
Furniture and fixtures	1,424,907	1,224,122
Construction in progress	2,214,318	--
	17,680,503	13,599,686
Less accumulated depreciation and amortization	6,948,401	5,706,923
	$10,732,102	$ 7,892,763

Depreciation and amortization expense was $1,564,000, $1,431,000 and $1,578,000 for the years ending December 31, 1996, 1995 and 1994, respectively.

Certain property, plant and equipment have been acquired under capitalized lease obligations. These assets totaled $8,910,000, with related accumulated amortization of $3,947,000 and $3,027,000 at December 31, 1996 and 1995, respectively.

In connection with the Company's new facility, the Company capitalized $42,000 of interest costs in 1996.

7. OTHER ASSETS

Other assets are as follows:

	December 31, 1996	December 31, 1995
Patents, net	$2,760,593	$2,119,965
Restricted cash	497,956	784,632
Deferred financing costs, net	297,698	147,121
Organizational costs, net	156,183	--
Other investments	200,000	200,000
	$3,912,430	$3,251,718

8. ACCRUED EXPENSES

Accrued expenses are as follows:

	December 31, 1996	December 31, 1995
Employee compensation	$ 824,910	$ 761,650
External services	537,605	776,995
Collaborative research	413,497	367,772
Other	532,832	552,034
	$2,308,844	$2,458,451

9. LEASES

The Company has undertaken direct financing transactions with the State of Rhode Island and received proceeds from the issuance of industrial revenue bonds totaling $5,000,000 to finance the construction of its pilot manufacturing facility. The related leases are structured such that lease payments will fully fund all semiannual interest payments and annual principal payments through maturity in August 2014. Fixed interest rates vary with the respective bonds' maturities, ranging from 5.1% to 9.5%. The bonds contain certain restrictive covenants which limit, among other things, the payment of cash dividends and the sale of assets. In addition, the Company is required to maintain a debt service reserve, which totals $478,000, until December 1999.

The Company leases various office and research facilities and certain equipment under noncancelable operating and capitalized leases. However, leases relating to the majority of its office and research facilities are subject to termination upon nine months' notification by the Company.

Future minimum capitalized lease obligations with noncancelable terms in excess of one year at December 31, 1996, are as follows:

1997	$ 938,707
1998	753,788
1999	624,030
2000	607,518
2001	589,634
Thereafter	4,079,005
Total minimum lease payments	7,592,682
Less amounts representing interest	3,067,531
Present value of minimum lease payments	4,525,151
Less current maturities	553,557
Capitalized lease obligations, less current maturities	$3,971,594

Rent expense for the years ended December 31, 1996, 1995 and 1994, was $495,000, $463,000 and $425,000, respectively.

10. LONG-TERM DEBT

Long-term debt is as follows:

	December 31, 1996	December 31, 1995
Convertible subordinated note (Sfr 2,400,000)	$1,788,775	$ --
Facilities term note payable, interest at the prime rate plus 1/2% (8 3/4% at December 31, 1996), due in 16 consecutive equal quarterly installments of 1/40 of total amount of loan commencing September 1997, with remaining balance due October 2001; secured by the related facility and real estate	1,450,000	--
Term note payable, interest at the prime rate plus 1/2% (83 /4% at December 31, 1996), due ratably through December 1998; secured by certain equipment	867,227	1,263,458
Term note payable, interest at the prime rate plus 1/2% (8 3/4% at December 31, 1996), principal payments commence in August 1997, due ratably through May 2000; secured by certain equipment	740,700	--
Other	99,876	152,968
	4,946,578	1,416,426
Current maturities of long-term debt	695,570	474,245
Long-term debt, less current maturities	$4,251,008	$ 942,181

The non-interest bearing, convertible subordinated note is due in July 2006 and is convertible into a 15% ownership interest in Modex Therapeutiques S.A., the Company's 50%-owned Swiss subsidiary. So long as there is no public market for Modex stock, the holder can require the Company to purchase the note for 90% of the fair value of the underlying equity interest after July 1998, but before July 2006. Conversely, at any time after July 1998, the Company may purchase the note for 110% of such fair value. Prior to July 1998, the Company may purchase the note for the greater of (i) Sfr 3,600,000 or (ii) Sfr 2,400,000 and 30% simple interest thereon.

The facilities term note payable provides for borrowings up to $5.5 million to finance the construction of the Company's new research and development facility. Should the Company's unrestricted cash balances fall below specified levels, the Company is required to provide cash collateral for up to 100% of the outstanding loan balance.

Both term note agreements include certain restrictive covenants that limit, among other things, the payment of dividends, sale of assets and the incurrence of additional indebtedness.

Maturities of long-term debt for the years ending December 31 are as follows:

1997	$ 695,570
1998	859,383
1999	391,900
2000	268,450
2001	942,500
Thereafter	1,788,775
	$4,946,578

The carrying amount of the notes payable approximate their fair value. The fair market value of the convertible subordinated note cannot be determined.

11. REDEEMABLE COMMON STOCK

Under a research agreement to fund development of products to treat Parkinson's disease (see Note 13), Genentech purchased 829,171 shares of common stock for $8.3 million in December 1996. If the agreement is terminated and the funds received from the sale of common stock exceed by more than $1 million the expenses incurred by the Company in connection with such development, Genentech has the right to require the Company to repurchase shares of common stock having a value equal to the amount of overfunding, at the share price paid by Genentech. Accordingly, the common stock is classified as redeemable common stock until such time as the related funds are expended. At December 31, 1996, $141,000 had been spent on the collaboration with Genentech and, accordingly, the Company has reclassified those common shares and related value to stockholders' equity.

12. STOCKHOLDERS' EQUITY

STOCK OPTION AND EMPLOYEE STOCK PURCHASE PLANS

The Company has adopted several stock plans which provide for the issuance of incentive and nonqualified stock options, performance awards and stock appreciation rights, at prices to be determined by the Board of Directors, as well as the purchase of Common Stock under an employee stock purchase plan at a discount to the market price. In the case of incentive stock options, such price will not be less than the fair market value on the date of grant. Options generally vest ratably over four years and are exercisable for ten years from the date of grant or within three months of termination. At December 31, 1996, the Company had reserved 3,086,388 shares of common stock for the exercise of stock options.

The following table presents the combined activity of its stock option plans for the years ended December 31, as follows:

	1996		1995		1994	
	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price
Outstanding at January 1	1,921,284	$7.72	1,480,844	$7.21	1,245,700	$6.56
Granted	852,160	9.48	678,604	8.35	632,665	8.86
Exercised	(168,085)	5.83	(102,831)	4.54	(160,143)	9.78
Canceled	(182,334)	9.42	(135,333)	7.77	(237,378)	8.73
Outstanding at December 31	2,423,025	$8.34	1,921,284	$7.72	1,480,844	$7.21
Options exercisable at December 31	1,105,251	$7.11	839,260	$6.33	662,763	$5.36

FAS 123 DISCLOSURES

The Company has adopted the disclosure provisions only of Statement of Financial Accounting Standards No. 123, Accounting for Stock-Based Compensation ("FAS 123") and will continue to account for its stock option plans in accordance with the provisions of APB 25, Accounting for Stock Issued to Employees.

The following table presents weighted average price and life information about significant option groups outstanding at December 31, 1996:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number Outstanding	Weighted Average Remaining Contractual Life (Yrs.)	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
Less than $5.00	348,608	5.93	$ 2.03	287,138	$ 1.54
$5.01 - $10.00	1,374,358	8.94	8.05	479,507	7.32
Greater than $10.00	700,059	7.97	12.03	338,606	11.53
	2,423,025			1,105,251	

Pursuant to the requirements of FAS 123, the following are the pro forma net loss and net loss per share for 1996 and 1995, as if the compensation cost for the option plans and the stock purchase plan had been determined based on the fair value at the grant date for grants in 1996 and 1995, consistent with the provisions of FAS 123:

	1996		1995	
	As Reported	Pro Forma	As Reported	Pro Forma
Net loss	$(13,759,138)	$(14,931,000)	$(8,891,239)	$(9,161,000)
Net loss per share	$ (.89)	$ (.97)	$ (.69)	$ (.72)

The weighted average fair value per share of options granted during 1996 and 1995 was $5.67 and $4.84, respectively. The fair value of options and shares issued pursuant to the stock purchase plan at the date of grant were estimated using the Black-Scholes model with the following weighted average assumptions:

	Options		Stock Purchase Plan	
	1996	1995	1996	1995
Expected life (years)	5	5	.5	.5
Interest rate	6.5%	5.8%	5.4%	5.1%
Volatility	63.0%	62.0%	63.0%	62.0%

The Company has never declared nor paid dividends on any of its capital stock and does not expect to do so in the foreseeable future.

The effects on the 1996 and 1995 pro forma net loss and net loss per share of expensing the estimated fair value of stock options and shares issued pursuant to the stock purchase plan are not necessarily representative of the effects on reporting the results of operations for future years as the period presented includes only one and two years, respectively, of option grants under the Company's plans. As required by FAS 123, the Company has used the Black-Scholes model for option valuation, which method may not accurately value the options described.

STOCK WARRANTS

In conjunction with various equipment leasing agreements, the Company has outstanding warrants to purchase 31,545 shares of common stock at prices ranging from $4.00 to $9.00 per share. The warrants expire through October 2000.

In connection with a public offering of common stock in April 1995, the Company issued warrants to purchase 434,500 shares of common stock at $8 per share. The warrants are nontransferable and expire in April 2000, subject to certain required exercise provisions. In addition to the foregoing rights, the holder of such warrants has the right, in the event the Company issues additional shares of common stock or other securities convertible into common stock, to purchase at the then market price of such common stock, sufficient additional shares of common stock to maintain the warrant holder's percentage ownership of the Company's common stock at 15%. This right, subject to certain conditions and limitations, expires in April 2000.

COMMON STOCK RESERVED

The Company has reserved 5,776,500 shares of common stock for the exercise of options, warrants and other contingent issuances of common stock.

13. RESEARCH AND DEVELOPMENT AGREEMENTS

In November 1996, the Company signed collaborative development and licensing agreements with Genentech, Inc. relating to the development of products using the Company's technology to deliver certain of Genentech's proprietary growth factors to treat certain diseases of the central nervous system. Under the terms of the Parkinson's Agreement, Genentech purchased 829,171 shares of redeemable common stock for $8.3 million to fund development of products to treat Parkinson's disease. Additional equity purchases and other funding by Genentech may be available for future clinical development if agreed by the parties. Upon commercialization, Genentech and the Company will share profits from product sales in the United States at an agreed-upon percentage and Genentech will pay the Company a royalty for product sales outside the United States. The Company retained manufacturing rights for all products sold.

The Company also licensed growth factors for the treatment of Huntington's disease and for amyotrophic lateral sclerosis (ALS). Under the terms of the agreements, the Company is responsible for conducting and funding all preclinical and clinical development, subject to specified rights of Genentech to participate in the development and marketing of the proposed products. Should Genentech share in the development costs of the proposed products, the companies will share profits from certain territories at negotiated percentages. Where Genentech does not participate in the development, upon commercialization, the Company will pay Genentech an agreed-upon royalty based on sales. These three agreements supersede the 1994 Genentech collaboration in its entirety.

In March 1995, the Company signed a collaborative research and development agreement with Astra AB for the development and marketing of encapsulated-cell products to treat pain. Astra made an initial, nonrefundable payment of $5,000,000, included in revenue from collaborative agreements in 1995, and may remit up to an additional $16,000,000 subject to the achievement of certain development milestones. Under the agreement, the Company is obligated to conduct certain research and development pursuant to a four-year research plan agreed upon by the parties. Over the term of the research plan, the Company expects to receive annual payments of $5 million to $7 million from Astra which should approximate the research and development costs incurred by the Company under the Plan. Subject to successful product development and obtaining necessary regulatory approvals, Astra is obligated to conduct all clinical trials of products arising from the collaboration and to seek approval for their sale. Astra has the exclusive worldwide right to market products covered by the agreement. Until the later of either expiration of all patents included in the licensed technology or a specified term, the Company is entitled to a royalty on the worldwide net sales of such products in return for the marketing license granted to Astra and the Company's obligation to manufacture and supply products. Astra has the right to terminate the agreement after April 1, 1998.

In March 1994, the Company entered into a contract research and license agreement with NeuroSpheres, Ltd. Under the agreement, the Company obtained from NeuroSpheres an exclusive worldwide royalty-bearing license for the commercial development and use of certain neural stem cells for transplantation to treat human disease. Terms of the agreement required the Company to make an initial payment of $310,000 and provide NeuroSpheres additional research funding through February 1998 based upon performance of certain obligations by NeuroSpheres. Research expense under this agreement amounted to $291,667, $233,333 and $125,000 for the years ended December 31, 1996, 1995 and 1994, respectively. Upon the achievement of certain milestones, the Company must make payments to NeuroSpheres totaling a maximum of $3,750,000, payable, at NeuroSpheres' option, in cash or in shares of the Company's common stock at a price of $12.50 per share. Upon commercial sale of a product utilizing the licensed technology, the Company is obligated to pay a range of royalties, based on product revenues and market share, plus certain minimum royalties. In order to maintain exclusivity, the Company is also obligated to expend additional amounts to support research related to dev elopment of products under the agreement. The Company and NeuroSpheres are currently involved in arbitration proceedings intended to resolve a dispute between the parties regarding the determination of stem cells subject to exclusive license.

The Company has entered into other collaborative research agreements whereby the Company funds specific research programs. Pursuant to such agreements, the Company is typically granted rights to the related intellectual property or an option to obtain such rights on terms to be agreed, in exchange for research funding and specified royalties on any resulting product revenue. To date, the Company's principal academic collaborations have been with Brown University and Dr. Aebischer and Centre Hospitalier Universitaire Vaudois in Switzerland. Research and development expenses incurred under these collaborations amounted to approximately $1,337,000, $1,008,000 and $864,000, for the years ended December 31, 1996, 1995 and 1994, respectively.

14. INCOME TAXES

Due to net losses incurred by the Company in each year since inception, no provision for income taxes has been recorded. At December 31, 1996, the Company had tax net operating loss carryforwards of $21,621,000 and research and development tax credit carryforwards of $2,251,000 which expire at various times through 2011. Due to the "change in ownership" provisions of the Tax Reform Act of 1986, the Company's utilization of its net operating loss carryforwards and tax credits may be subject to annual limitation in future periods.

Significant components of the Company's deferred tax assets and liabilities are as follows:

	December 31, 1996	December 31, 1995
Deferred tax assets:		
Capitalized research and development costs	$ 21,286,000	$ 17,562,000
Net operating losses	8,648,000	6,020,000
Research and development credits	2,251,000	1,921,000
Other	316,000	419,000
	32,501,000	25,922,000
Deferred tax liabilities:		
Patents	1,096,000	694,000
	31,405,000	25,228,000
Valuation allowance	(31,405,000)	(25,228,000)
Net deferred tax assets	$ --	$ --

Since there is uncertainty relating to the ultimate use of the loss carryforwards and tax credits, a valuation allowance has been recognized at December 31, 1996 and 1995 to fully offset the Company's deferred tax assets. The valuation allowance increased $6,177,000 in 1996, due primarily to the increases in capitalized research and development costs, net operating loss carryforwards and tax credits.

15. EMPLOYEE RETIREMENT PLAN

The Company has a qualified defined contribution plan covering substantially all employees. Participants are allowed to contribute a fixed percentage of their annual compensation to the plan and the Company may match a percentage of that contribution. The Company matches 50% of employee contributions, up to 6% of employee compensation, with the Company's common stock. The related expense was $162,000, $131,000 and $114,000 for the years ended December 31, 1996, 1995 and 1994, respectively.

16. CONTINGENCIES

The Company is routinely involved in arbitration, litigation and other matters as part of the ordinary course of its business. While the resolution of any matter may have an impact on the Company's financial results for a particular reporting period, management believes the ultimate disposition of these matters will not have a materially adverse effect on the Company's consolidated financial position or results of operations.

17. SUBSEQUENT EVENT

In February 1997, the Company entered into a collaboration and development agreement with Cognetix, Inc. to screen selected peptides for possible development of therapeutic products using the Company's cell-based delivery technology. Under the agreement, the Company expects to invest approximately $1,750,000 over the next twelve months to acquire approximately a 19.9% ownership position in Cognetix. The companies will generally share expenses associated with the development of any specific product candidate and any resulting revenues, except as otherwise determined on a product-by-product basis.

ITEM 9.

CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

PART III

ITEM 10.

DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT, PROMOTERS AND CONTROL PERSONS

DIRECTORS AND EXECUTIVE OFFICERS

The sections entitled "Election of Directors" and "Executive Officers" in the Company's definitive proxy statement for its 1997 Annual Meeting of Shareholders are hereby incorporated by reference.

ITEM 11.

Executive Compensation

The section entitled "Executive Compensation" in the Company's definitive proxy statement for its 1997 Annual Meeting of Shareholders is hereby incorporated by reference.

ITEM 12.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The section entitled "Share Ownership" in the Company's definitive proxy statement for its 1997 Annual Meeting of Shareholders is hereby incorporated by reference.

ITEM 13.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The section entitled "Certain Relationships and Related Transactions" in the Company's definitive proxy statement for its 1997 Annual Meeting of Shareholders is hereby incorporated by reference.

PART IV

ITEM 14.

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

(A) DOCUMENTS FILED AS PART OF THIS FORM 10-K.

(1) Financial Statement Schedules:

Item	Location
Schedule II Valuation and Qualifying Accounts	S-1

Schedules not included herein are omitted because they are not applicable or the required information appears in the Financial Statements or Notes thereto.

(2) Exhibits.

Exhibit No.	Title or Description
3.1*	Restated Certificate of Incorporation of the Registrant.
3.2++	Amended and Restated By-Laws of the Registrant.
4.1*	Specimen Common Stock Certificate.
4.2++++	Form of Warrant Certificate issued to a certain purchaser of the Registrant's Common Stock in April 1995.
10.4*	Amendment to Registration Rights dated as of February 14, 1992 among the Registrant and certain of its stockholders.
10.5* **	Research Agreement dated March 1, 1989 between the Registrant and Brown University as amended by Modification No. 1 dated December 21, 1990, Modification No. 2 dated February 22, 1991 and Modification No. 3 dated November 1, 1991.
10.5A*	Letter Agreement dated March 4, 1992 between the Registrant and Brown University.
10.6*	License Agreement dated March 16, 1989 between the Registrant and Brown University, as amended by Amendment Agreement dated May 2, 1991.
10.7*	Research Agreement dated March 16, 1989 between Registrant and Washington University.
10.7A*	Letter Agreement dated March 19, 1992 between Registrant and Washington University.
10.8*	License Agreement dated March 16, 1989 between the Registrant and Washington University.
10.12*	Employment Agreement dated January 3, 1991 between the Registrant and Dr. Seth A. Rudnick.
10.15*	Form of at-will Employment Agreement between the Registrant and most of its employees.
10.16*	Agreement for Consulting Services dated March 16, 1989 between the Registrant and Dr. Patrick Aebischer.
10.17*	Agreement for Consulting Services dated March 16, 1989 between the Registrant and Dr. Pierre Galletti.
10.18*	Agreement for Consulting Services dated March 16, 1989 between the Registrant and Dr. Paul Lacy.
10.20*	Form of Agreement for Consulting Services between the Registrant and members of its Scientific Advisory Board.
10.21*	Form of Nondisclosure Agreement between the Registrant and its Contractors.
10.22*	Funding Agreement dated June 22, 1989 between the Registrant and the Rhode Island Partnership for Science and Technology.

10.23*	Agreement dated June 28, 1991 between the Registrant and TSI Mason Laboratories, Inc.
10.24*	Agreement dated December 5, 1991 between the Registrant and TSI Corporation.
10.25*	Agreement of Lease dated September 11, 1989 between the Registrant and Harold I. Schein, as amended by a Rider dated June 8, 1990, a Rider dated November 13, 1990, a Rider dated October 8, 1991, and a Rider dated October 10, 1991.
10.26*	Purchase and Sale Agreement between the Registrant and Guy Gregory for purchase of property and building at 6 Court Drive, Lincoln, Rhode Island.
10.28*	Master Lease and Warrant Agreement dated April 23, 1991 between the Registrant and PacifiCorp Credit, Inc.
10.29*	1988 Stock Option Plan.
10.30*	1992 Equity Incentive Plan.
10.31*	1992 Stock Option Plan for Non-Employee Directors.
10.32*	1992 Employee Stock Purchase Plan.
10.35#	Consulting Agreement dated as of September 1, 1992 between Edwin C. Cadman and the Registrant.
10.36**#	Letter Agreement between Registrant and Dr. Patrick Aebischer dated October 13, 1992 as amended by a letter agreement dated December 23, 1993.
10.37+	Employment Agreement dated September 9, 1992 between Registrant and Frederic A. Eustis, III.
10.41**	Development and Supply Agreement dated December 1993, between Registrant and AKZO Faser A.G.
10.42**	Asset Transfer Agreement dated as of December 23, 1994, between Registrant and Neocrin Company.
10.43*##**	Research Agreement dated as of February 1, 1994 between Genentech, Inc. and Registrant.
10.44*##**	Research Agreement dated as of March 16, 1994 between NeuroSpheres, Ltd. and Registrant.
10.46++	Termination Agreement dated as of August 4, 1994 between Registrant and Medtronic, Inc.
10.47++	Term Loan Agreement dated as of September 30, 1994 between the First National Bank of Boston and Registrant.
10.48++	Lease Agreement between the Registrant and Rhode Island Industrial Facilities Corporation, dated as of August 1, 1992.
10.49++	First Amendment to Lease Agreement between Registrant and The Rhode Island Industrial Facilities Corporation dated as of September 15, 1994.
10.50++	Supplementary Agreement dated as of July 1, 1994 between Akzo Nobel Faser AG and the Registrant.
10.51**++++	Development, Marketing and License Agreement, dated as of March 30, 1995, between Registrant and Astra AB.
10.52++++	Form of Unit Purchase Agreement to be executed by the purchasers of the Common Stock and Warrants offered in April 1995.
10.53+++	Form of Common Stock Purchase Agreement to be executed among the Registrant and certain purchasers of the Registrant's Common Stock.
10.54!**	Research and Commercialization Agreement dated as of September 4, 1995 among the Company, Dr. Patrick Aebischer and Canton of Vaud, Switzerland.
10.55!!	Employment agreement dated as of July 2, 1996 between Sandra Nusinoff Lehrman, M.D. and Registrant.
10.56!!	Consulting agreement dated as of September 1, 1996 between Dr. Edwin C. Cadman and the Registrant.
10.57!!	Convertible loan agreement dated as of July 10, 1996 between the Company and Modex Therapeutiques S.A.

10.58!!**	Cross License agreement dated as of July 10, 1996 between the Company and Modex Therapeutiques S.A.
10.59!!	Modex Therapeutiques S.A. stockholders voting agreement dated at of July 10, 1996 among Modex, the Company, the Societe Financiere Valoria S.A. and the other stockholders listed therein.
10.60!!	CTI individual stockholders option agreement dated as of July 10, 1996 among the Company and the individuals listed therein.
10.61!!	CTI - Valoria option agreement dated of July 10, 1996 between the Company and the Societe Financiere Valoria S.A.
10.62**	Development Collaboration and License Agreement Relating to Parkinson's Disease dated as of November 22, 1996 between Genentech, Inc. and Registrant.
10.63	Consulting Agreement dated as of December 1, 1996 between Peter Simon and the Registrant.
10.64	Term Loan Agreement dated as of October 22, 1996 between The First National Bank of Boston and Registrant.
23.1	Consent of Ernst & Young LLP.
99	Cautionary Factors Relevant to Forward-looking Information.

++	Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-1, File No. 33-85494.
+++	Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-3, File No. 33-97272.
++++	Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-1, File No. 33-91228.
*	Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, Registration Statement on Form S-1, File No. 33-45739.
#	Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Annual Report on Form 10-K for fiscal year 1992 and filed March 30, 1993.
**	Confidential treatment requested as to certain portions. The term "confidential treatment" and the mark "*" as used throughout the indicated Exhibits mean that material has been omitted and separately filed with the Commission.
##	Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 1994 and filed on May 14, 1994.
+	Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1993 and filed on March 30, 1994.
!	Previously filed with the Commission as an Exhibit to, and incorporated by reference to, the Registrant's Quarterly Report on Form 10-Q for the quarter ending March 31, 1996.
!!	Previously filed with the Commission as an Exhibit to, and incorporated by reference to, the Registrant's Quarterly Report on Form 10-Q for the quarter ending September 30, 1996.

(B) CURRENT REPORTS ON FORM 8-K.

On December 20, 1996, the Company filed a Report on Form 8-K with the Securities and Exchange Commission describing the Genentech, Inc. arrangements. See "Corporate Collaborations - Genentech, Inc."

SIGNATURES

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

CYTOTHERAPEUTICS, INC.

By: /s/ Seth A. Rudnick, M.D.

Seth A. Rudnick, M.D.
Chairman and Chief Executive Officer

Dated: March 28, 1997

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

Signature	Capacity	Date
/s/ Seth A. Rudnick, M.D. Seth A. Rudnick, M.D.	Chairman, Chief Executive Officer, and Director (principal executive officer)	March 28, 1997
/s/ Frederic A. Eustis, III Frederic A. Eustis, III	Acting Chief Financial Officer and Treasurer (principal financial officer), Vice President, General Counsel and Secretary	March 28, 1997
/s/ Suzanne L. Fleming Suzanne L. Fleming	Controller (principal accounting officer)	March 28, 1997
/s/ Patrick Aebischer, M.D. Patrick Aebischer, M.D.	Director	March 28, 1997
/s/ Edwin C. Cadman, M.D. Edwin C. Cadman, M.D.	Director	March 28, 1997
s/s Donald R. Conklin Donald R. Conklin	Director	March 28, 1997
/s/ Sandra Nusinoff Lehrman Sandra Nusinoff Lehrman	Chief Operating Officer, President and Director	March 28, 1997
/s/ Mark J. Levin Mark J. Levin	Director	March 28, 1997
/s/ Richard J. Ramsden Richard J. Ramsden	Director	March 28, 1997
/s/ Peter Simon Peter Simon	Director	March 28, 1997

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS

	Balance at beginning of year	Additions: Charged to costs and expenses	Additions: Charged to other accounts	Deductions	Balance at end of year
Year Ended Dec. 31, 1996:					
Other investments, net.....	$2,330,848	0	0	0	$2,330,848
Year Ended Dec. 31, 1995:					
Other investments, net.....	0	$2,330,848	0	0	$2,330,848

DEVELOPMENT COLLABORATION

AND LICENSE AGREEMENT

This Agreement is made and entered into as of the 22nd day of November 1996 (the "Effective Date") by and between Genentech, Inc., a corporation organized and existing under the laws of the State of Delaware ("Genentech"), and CytoTherapeutics, Inc., a corporation organized and existing under the laws of the State of Delaware ("CTI").

WHEREAS:

Genentech has particular expertise in the areas of molecular biology, production of monoclonal antibodies, assay development and the use of recombinant DNA technology to construct mammalian cell lines capable of producing various proteins useful in treating human disorders, including, NGF, NT4/5, NT3, CT-1, Neurturin and other neurotrophic factors, and in developing and commercializing products based on such proteins; and

CTI has particular expertise in the area of cellular therapies based on proprietary membrane encapsulation technologies and in the development and application of implantable delivery systems for biologically active products for the treatment of central nervous system disorders; and

Genentech and CTI wish to develop products for the treatment of Parkinson's Disease, initially using Neurturin, and potentially also using NGF, NT3, NT4/5 and/or CT-1, all on the terms and conditions set forth herein.

NOW, THEREFORE, Genentech and CTI agree as follows:

ARTICLE I

DEFINITIONS

1 CERTAIN DEFINITIONS.

1.1 "ACCOUNTING PERIOD" shall mean (i) initially the period from the date of First Commercial Introduction of a Licensed Product approved for sale by an appropriate regulatory agency until the end of the first full calendar quarter after the First Commercial Introduction occurred, and (ii) thereafter, each subsequent calendar quarter.

1.2 "AFFILIATE" shall mean any entity or person which controls, is controlled by, or is under common control with Genentech or CTI. For purposes of this Section 1.2, "control" shall mean in the case of corporate entities, the direct or indirect ownership of greater than one-half (1/2) of the shares of stock or participating shares entitled to vote for the election of directors.

1.3 "BIOLOGICS LICENSE APPLICATION" shall mean a U.S. License application for a well characterized biologic as provided under applicable U.S. laws and regulations.

1.4 "CLINICAL DEVELOPMENT EXPENSES" shall mean all expenses incurred during development of Licensed Product(s) subsequent to analysis of the results of the Initial Clinical Trial, as directed by the Development Committee, including, without limitation, the costs of conducting ongoing research and development directly related to obtaining regulatory approvals; conducting human clinical trials other than the Initial Clinical Trial (including the cost of Clinical Product for such trials); refining the design of the Licensed Product; manufacturing process development and modifications fairly allocated to Licensed Product; cell line research; cell banking; stability studies; toxicology, carcinogenicity and immunology studies; developing QA/QC procedures and obtaining regulatory approvals (as required by this Agreement). "Clinical

Development Expenses" shall not include any expenses included in "Development Expenses", "Fully Burdened Manufacturing Cost", "Launch Expenses", "Phase IV Clinical Trial Expenses", "Cost of Sales" or "Sales, General and Administrative Expense", and in every case shall only include costs directly allocable to Licensed Product in accordance with U.S. generally accepted accounting principles consistently applied.

1.5 "CLINICAL DEVELOPMENT PROGRAM" shall mean the program described in Article IV of this Development Agreement.

1.6 "CLINICAL PRODUCT" shall mean Licensed Product used in clinical studies in humans.

1.7 "COMMERCIAL PRODUCT" shall mean Licensed Product commercially sold or used.

1.8 "COMMON STOCK" shall mean CTI's common stock, par value $0.01 per share.

1.9 "COST OF SALES" shall be comprised of (i) cost of goods sold, defined as Fully Burdened Manufacturing Cost, during such Accounting Period plus any additional costs incurred in preparing the Licensed Product for commercial sale or other disposition during such Accounting Period, (ii) royalties owed to third parties by Genentech as a result of manufacture, use or sales of Licensed Product (except for royalties included in Fully Burdened Manufacturing Cost) and (iii) any other reasonable and customary expenses includable in this category of costs in accordance with generally accepted accounting principles in the U.S. The determination of the "Cost of Sales" shall be subject to approval by the Finance Committee under Section 8.08. The foregoing shall be determined in accordance with U.S. generally accepted accounting principles consistently applied.

1.10 "CT-1" shall mean the human protein cardiotrophin-1, having the amino acid sequence set forth in Exhibit D-1 attached hereto, and any substitute molecule to which the Parties mutually agree.

1.11 "CTI KNOWHOW" shall mean all proprietary information, methods,

biological materials, processes, techniques and data, whether or not patentable, owned, controlled or licensed by CTI, to the extent related to the manufacture, use or sale of Licensed Product in the Territory and, in the case where licensed by CTI, which CTI is free to transfer or disclose without violating contractual obligations to third parties.

1.12 "CTI PATENTS" shall mean (i) those United States patents and patent applications listed on Exhibit A hereto, and any other patents or patent applications throughout the world owned, or licensed by CTI with the right to grant sublicenses, as of the Effective Date (except that the right to grant sublicenses may be as of the Effective Date or at any future time) that are necessary to make, have made, use or sell Licensed Product, (ii) any future patents and patent applications throughout the world that CTI owns, or licenses from a third party with the right to grant sublicenses (at any time) that are necessary to make, have made, use or sell Licensed Product, (iii) all foreign counterparts of United States patents and patent applications described in (i) above, (iv) all patents that issue on applications described in (i), (ii) and (iii) above, and (v) all substitutions, extensions (including patent term extensions), reissues, renewals, divisions, continuations, and continuations-in-part of any of the foregoing but only to the extent that with respect to any such patent or patent applications described in clauses (i) through (v) above, the licenses granted in this Agreement could not be practiced without infringing such patent or patent application. "CTI Patents" shall include, without limitation, CTI's rights under patents jointly owned pursuant to Section 7.04.

1.13 "DEVELOPMENT COMMITTEE" shall mean the committee organized and acting pursuant to Article II of this Agreement.

1.14 "DEVELOPMENT EXPENSES" shall mean all expenses incurred by CTI at the direction of the Development Committee subsequent to the Effective Date, but prior to the date, if any, that Genentech determines to initiate the Clinical Development Program after the review under Section 4.05(b), including, without limitation, the costs of conducting ongoing research and development directly related to obtaining regulatory approvals, conducting the Initial Clinical Trial (including the costs of Clinical Product for such trial); refining the design of the Licensed Product; manufacturing process development and modifications fairly allocated to Licensed Product; cell line research; and developing QA/QC procedures. "Development Expenses" shall not

include any expenses included in "Clinical Development Expenses", "Fully Burdened Manufacturing Cost", "Launch Expenses", "Phase IV Clinical Trial Expenses", "Cost of Sales" or "Sales, General and Administrative Expense", and in every case shall only include costs directly allocable to Licensed Product in accordance with U.S. generally acceptable accounting principles consistently applied. The Development Expenses anticipated by the Parties are contained in the budget attached to the Development Plan (Exhibit F).

1.15 "DEVELOPMENT PROGRAM" shall mean the program described in Article III.

1.16 "ENCAPSULATION TECHNOLOGY" shall have the meaning set forth in Exhibit B.

1.17 "FACTOR(S)" shall mean Neurturin. Subject to Section 3.01, the Parties may consider adding NGF, NT4/5, NT3 and/or CT-1 to the definition of "Factor(s)" during the term of this Agreement.

1.18 "FACTOR-BASED PATENTS" shall mean Genentech's right, title and interest in those third party patents covering one or more Factor(s) and the DNA encoding it or them or the use of any of the foregoing which are licensed by Genentech, which Genentech has the right to sublicense, and which, in the absence of such license, would be infringed by the manufacture, use or sale of Licensed Product.

1.19 "FDA" shall mean the U.S. Food and Drug Administration.

1.20 "FIELD OF USE" shall mean the treatment of Parkinson's Disease [*] but shall not include [*]. For the purposes of this Agreement, [*]

1.21 "FIRST COMMERCIAL INTRODUCTION" shall mean the date of the first commercial sale to an independent third party by Genentech or a permitted sublicensee of Genentech of a Licensed Product following approval of a Submission.

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1.22 "FULLY BURDENED MANUFACTURING COST" shall mean the actual cost of the production of either Clinical Product or Commercial Product, as the case may be, which shall be comprised of the sum of (a) the cost of goods produced as determined in accordance with U.S. generally accepted accounting principles as consistently applied by CTI, including, but not limited to, direct labor, packaging, and material and product testing costs incurred in connection with the manufacture or quality control testing of Clinical Product or Commercial Product, startup and validation costs associated with manufacturing capacity under this Agreement incurred prior to the first approval of a Submission for a Licensed Product, as well as overhead and amortized capital depreciation allocated in accordance with U.S. generally accepted accounting principles as consistently applied by CTI, and (b) all royalties (earned or paid up) payable to third parties under license(s) taken by CTI to patents or patent applications that, but for such license(s), would be infringed by the manufacture of Licensed Product. The determination of "Fully Burdened Manufacturing Cost" shall be subject to review by the Finance Committee under Section 8.08. In the case of any paid-up licenses, the cost of such licenses shall be fairly allocated between Licensed Product and other product(s) giving rise to payment obligations under such license.

1.23 "GENENTECH KNOWHOW" shall mean all proprietary information, methods, biological materials, processes, techniques and data, whether or not patentable, owned, controlled or licensed by Genentech to the extent related to the manufacture, use or sale of Licensed Product and, in the case where licensed by Genentech, which Genentech is free to transfer or disclose without violating contractual obligations to third parties.

1.24 "GENENTECH PATENTS" shall mean (i) those United States patents and patent applications listed on Exhibit C hereto, and any other patents or patent applications throughout the world owned, or licensed by Genentech with the right to grant sublicenses as of the Effective Date (except that the right to grant sublicenses may be as of the Effective Date or at any future time) that are necessary to make, have made, use or sell Licensed Product, (ii) any future patents and patent applications throughout the world that Genentech owns, or licenses from a third party with the right to grant sublicenses (at any time), that are necessary to make, have made, use or sell Licensed Product, (iii) all foreign counterparts of United States patents and patent applications described in (i) above, (iv) all patents that issue on applications described in (i), (ii) and (iii) above, and (v) all substitutions, extensions (including patent term

extensions), reissues, renewals, divisions, continuations, and continuations-in-part of any of the foregoing, but only to the extent that with respect to any such patent or patent applications described in clauses (i) through (v) above, the licenses granted in this Agreement could not be practiced without infringing such patent or patent application. "Genentech Patents" shall include, without limitation, the Factor-Based Patents and Genentech's rights under patents jointly owned pursuant to Section 7.04.

1.25 "INITIAL CLINICAL TRIAL" shall mean the initial clinical trial of Licensed Product as referred to in Exhibit F.

1.26 "KNOWHOW" shall mean CTI Knowhow or Genentech Knowhow, or both or either, as the context requires.

1.27 "LAUNCH EXPENSES" shall mean promotional and training expenses incurred by Genentech or its permitted sublicensees for the period from [*] of such market launch. All such "Launch Expenses" shall be included to the extent directly allocable to Licensed Product in accordance with U.S. generally accepted accounting principles consistently applied, subject to approval by the Finance Committee under Section 8.08.

1.28 "LICENSED PRODUCT" shall mean any product of commercial value or utility in the Field of Use which contains mammalian cells producing one or more Factor(s), which cells are encapsulated through use of the Encapsulation Technology.

1.29 "MAJOR MARKET COUNTRY" shall mean, in the singular, any of France, Germany, Italy, the United Kingdom or the United States, and, in the plural, all of such countries.

1.30 "NET PROFIT" shall mean for each Accounting Period, Net Sales in that Accounting Period less the sum of the Cost of Sales, and Sales, General and Administrative Expense (including Launch Expenses and Phase IV Clinical Trial Expenses) during such Accounting Period. To the extent that minimum purchases of Licensed Product by Genentech pursuant to Section 4.06 are not included in Cost of Sales by expiration of product life, the cost of such purchases shall also be subtracted from Net Sales for the purpose of calculating Net Profit; provided, however, that if the

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Licensed Product so purchased is subsequently sold, the cost so subtracted shall be added back to Net Profit. Such calculation shall not take into account income tax. However, the foregoing shall not be intended to double-count such purchases for purposes of Net Profits.

1.31 "NET SALES" shall mean as to each Accounting Period, the gross invoiced sales price charged for all Licensed Products sold or commercially disposed of for value by Genentech or any of its permitted sublicensees in arm's length sales to independent third parties in that Accounting Period, after deduction of the following items incurred by Genentech or any of its permitted sublicensees during such Accounting Period with respect to sales of Licensed Products hereunder regardless of the Accounting Period in which such sales were made, provided that such items are included in the price charged, and do not exceed reasonable and customary amounts in the market in which such sale occurred:

(i) trade, cash and quantity discounts or rebates actually taken or allowed;

(ii) credits or allowances given or made for rejection or return of, and for uncollectible amounts on, previously sold Licensed Products or for retroactive price reductions;

(iii) any tax or government charge (including any tax such as a value added or similar tax or government charge other than an income tax) levied on the sale, transportation or delivery of a Licensed Product and borne by the seller thereof; and

(iv) any charges for freight or insurance billed to the final customer.

If a Licensed Product is sold, leased or otherwise commercially disposed of for value in a transaction that is not an arm's length transaction with an independent third party, and is not for resale, etc. to an independent party in an arm's length transaction, then the gross sales price in such transaction shall be deemed to be the greater of the actual sales price or the gross sales price in the most similar substantially contemporaneous arm's length transaction with an independent third party for such Licensed Product, or if there is none, for the most similar Licensed Product for which there is such a transaction.

1.32 "NEURTURIN" shall mean the human protein Neurturin, having the amino acid sequence set forth in Exhibit D-2 attached hereto, and any substitute molecule to which the Parties mutually agree.

1.33 "NEURTURIN MTA" shall mean that certain Material Transfer Agreement dated as of [*]. For purposes of this Agreement, the Neurturin MTA is hereby incorporated herein in its entirety by this reference, and in the event of any conflict between the terms of the Neurturin MTA and this Agreement, the terms of the Neurturin MTA shall govern.

1.34 "NEW DRUG APPLICATION" shall mean a U.S. license application for a drug product under applicable U.S. laws and regulations.

1.35 "NGF" shall mean the human protein nerve growth factor, having the amino acid sequence set forth in Exhibit D-4 attached hereto, and any substitute molecule to which the Parties mutually agree.

1.36 "NGF AGREEMENT" shall mean that certain Development Collaboration and License Agreement, dated as of February 1, 1994, between the Parties.

1.37 "NT3" shall mean the human protein neurotrophin 3, having the amino acid sequence set forth in Exhibit D-5 attached hereto, and any substitute molecule to which the Parties mutually agree.

1.38 "NT 4/5" shall mean the human protein neurotrophin factor 4/5, having the amino acid sequence set forth in Exhibit D-3 attached hereto, and any substitute human molecule to which the Parties mutually agree.

1.39 "PARKINSON'S DISEASE" shall mean the disease in humans known as Parkinson's disease and any related syndromes or symptoms. Parkinson's disease is an idiopathic, progressive, neurodegenerative disorder characterized clinically by resting tremor, rigidity, slowness of movement (bradykinesia), paucity of movement (hypokinesia) and degeneration of dopaminergic neurons in the substantia nigra and/or their projections into the striatum.

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1.40 "PARTY" shall mean Genentech or CTI and, when used in the plural, shall mean both Genentech and CTI.

1.41 "PATENT RIGHTS" shall mean CTI Patents and Genentech Patents, or either, as the context may require.

1.42 "PHASE II CLINICAL DEVELOPMENT EXPENSES" shall mean all Clinical Development Expenses incurred by CTI or its permitted sublicenses from [*].

1.43 "PHASE III CLINICAL DEVELOPMENT EXPENSES" shall mean all Clinical Development Expenses incurred by CTI or Genentech or their respective permitted sublicensees [*] for Licensed Product in each of the United States, all countries of the European Union and Japan.

1.44 "PHASE II CLINICAL TRIAL" shall mean a clinical trial in humans of a Licensed Product designed to confirm initial safety data and provide initial efficacy data which provides the basis for a Phase III Clinical Trial in the United States; Phase II Clinical Trial(s) are expected to be conducted prior to any Phase III Clinical Trial.

1.45 "PHASE III CLINICAL TRIAL" shall mean a trial in humans of both the safety and efficacy of a Licensed Product for a specific indication or indications in patients having the disease or condition under study directed toward receipt of approval by the appropriate regulatory authority for marketing of such Licensed Product for such specific indication or indications.

1.46 "PHASE IV CLINICAL TRIAL EXPENSES" shall mean all costs and expenses incurred by Genentech or its permitted sublicensees associated with any clinical trial of a Licensed Product after the first approval of a Submission by the FDA for such Licensed Product where such trial is required by the FDA. All such "Phase IV Clinical Trial Expenses" shall be included to the extent directly allocable to Licensed Product in accordance with U.S. generally accepted accounting principles consistently applied, subject to approval by the Finance Committee under Section 8.08.

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1.47 "SALES, GENERAL AND ADMINISTRATIVE EXPENSE" shall mean all costs incurred for the sales and marketing of a Licensed Product and for all related general, administrative and other matters not a part of Cost of Sales, in accordance with U.S. generally accepted accounting principles consistently applied, subject to approval by the Finance Committee under Section 8.08. "Sales, General and Administrative Expense" shall include expenses included in "Launch Expenses" and "Phase IV Clinical Trial Expenses".

1.48 "STOCK PURCHASE AGREEMENT" shall mean the agreement attached as Exhibit E.

1.49 "SUBMISSION" shall mean the submission to an appropriate regulatory authority (such as the FDA) of appropriate applications seeking approval of the marketing and, when appropriate, approval of the pricing, of a Licensed Product, e.g., an "NDA" or a "BLA".

1.50 "TERRITORY" shall mean all the countries of the world.

1.51 "U.S. PHASE III CLINICAL DEVELOPMENT EXPENSES" shall mean all Phase III Clinical Development Expenses incurred for clinical development of Licensed Product(s) by CTI or Genentech or their respective permitted sublicensees for approval to market and sell Licensed Products in the United States.

It is the intent of the Parties that "U.S. Phase III Clinical Development Expenses" shall only include those clinical expenses necessary for obtaining approval(s) to market and sell Licensed Products in the United States.

1. 52 "U.S. PHASE III CLINICAL TRIAL" shall mean a Phase III Clinical Trial in the United States.

1.53 "20 DAY AVERAGE" shall mean, in each instance, a price per share equal to the average [*] agreed on by the Parties (as evidenced by this Agreement, the Stock Purchase Agreement or other mutual written agreement of the Parties) of the average of each day's high and low price per share of CTI's Common Stock in the NASDAQ National Market System or, if not there quoted, on a national

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securities market or exchange on which CTI is then traded and agreed upon by the Parties.

ARTICLE II

DEVELOPMENT COMMITTEE

2.01 CREATION OF THE DEVELOPMENT COMMITTEE. The Parties hereby agree to the creation of a Development Committee which shall consist of three representatives of each Party. Within sixty (60) days following the Effective Date, each Party shall notify the other Party of its initial appointees to the Development Committee. Each Party shall be free to change its representatives upon written notice to the other Party.

2.02 MEETINGS. So long as the development collaboration activities set forth in Articles III and IV are on-going or contemplated by the Parties, the Development Committee shall meet regularly at least once a quarter, unless otherwise agreed by the members of the Development Committee. Additional meetings may be called by either Party on 10 days' notice to the other and, unless otherwise agreed, all meetings shall alternate between the offices of the Parties.

2.03 DUTIES. Subject to the other terms of this Agreement (including, without limitation, Section 4.05), the Development Committee shall be responsible for directing the Development Program and Clinical Development Program, making the decisions it is required to make pursuant to the terms of this Agreement and making recommendations to the Parties regarding other decisions necessary or appropriate to implement this Agreement (including, without limitation, adjustments to the budget in case of expenses necessary for work not originally contemplated by the budget, but later agreed upon by the Parties).

All decisions and recommendations of the Development Committee shall require the agreement of a majority of the representatives of each Party to be effective. In the event the representatives of the two Parties cannot agree on a matter, the vote of the Genentech representatives shall decide matters except that (i) the vote of the CTI representatives shall decide matters [*] and (ii) both

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Parties shall [*] after its commencement (and assuming that Genentech has determined that it should commence, after the review under Section 4.05(c)). If one Party objects to such a decision made by the representatives of the other Party, a member of senior management of each Party shall confer and resolve the dispute. For this purpose, a "member of senior management" shall be a management-level employee who has the authority to bind a Party. If the members of senior management do not resolve such dispute within 60 days of such objection, the Parties shall attempt to resolve such dispute in accordance with Sections 11.19 and 11.20.

Any material decision of the Development Committee (e.g., budget and/or timeline for approvals) shall be reduced to a writing agreed to by both Parties.

ARTICLE III

DEVELOPMENT PROGRAM

3.01. OBJECTIVES OF THE PARTIES. The Parties agree that the goal under this Agreement is the development of Licensed Products. The initial Factor to be investigated shall be Neurturin. The Parties may agree on investigating other Factor(s) in addition to or instead of Neurturin, based on the data and results arising from the "Development Plan" (as defined below) for Licensed Product containing Neurturin as the only Factor. If the Parties agree on Factor(s) in addition to or other than Neurturin for the definition of "Factor(s)," they shall so indicate in a writing signed by both Parties.

The Parties further agree that the Development Program consists of the development plan attached hereto as Exhibit F (the "Development Plan"), which includes, among other items, the primate efficacy study and large animal study described therein and the Initial Clinical Trial. The Development Committee shall revise the work comprising the Development Program from time to time as necessary, including, if agreed, to reflect development of Licensed Products in addition to or other than Licensed Products containing only Neurturin as a Factor. If the Parties decide to develop Licensed Products beyond Licensed Product containing only Neurturin as a Factor, they shall agree on a "Development Plan" for such Licensed Product(s), including a budget and time line.

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In the case of any conflict between the Development Plan and this Agreement, the provisions of this Agreement shall control.

3.02 INITIAL DEVELOPMENT OBLIGATIONS OF CTI. CTI agrees to contribute the following materials and to commit the time and efforts of the number of its full-time equivalent research staff set forth in the Development Plan to use their reasonable best efforts to accomplish the following for Neurturin and, if relevant, any other Factor(s) which the Parties agree upon under Section 3.01, consistent with the plans of the Development Committee:

(i) determine the [*] in a large animal model;

(ii) develop a cell line(s) producing the relevant Factor(s) for clinical development which is suitable for master cell banking and which has been approved by the Development Committee;

(iii) encapsulate the cell line(s) producing the relevant Factor(s) and, as the following are required to meet requirements of the FDA and other applicable regulatory agencies, provide: documentation regarding the stability of production of such Factor(s), the extent of such Factor(s) release and the release of non-Factor proteins and other biomolecules by the encapsulated cell line(s) and lack of contamination of such encapsulated cell line by viruses, prions and bacteria;

(iv) conduct pre-clinical development activities, including animal experiments and IND-enabling toxicology, safety and pharmacokinetic studies, as directed by the Development Committee;

(v) file a U.S. IND or other appropriate regulatory application(s) to conduct the Initial Clinical Trial;

(vi) conduct the Initial Clinical Trial; and

(vii) pay for all Development Expenses (except for internal Genentech costs incurred pursuant to Section 3.03).

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CTI shall keep the Development Committee informed of the identities of the CTI research staff members who are committed to the Development Program and shall provide documentation of expenses as requested by the Development Committee. Genentech shall have the right one time annually, upon written request and after reasonable notice, to audit the time allocations of the research staff committed to the Development Program and other documentation of expenses incurred.

3.03 INITIAL DEVELOPMENT OBLIGATIONS OF GENENTECH. Genentech agrees to contribute the following and to use its reasonable best efforts to accomplish the following for Neurturin and, if relevant, any other Factor(s) which the Parties agree on under Section 3.01, consistent with the plans of the Development Committee:

(i) supply antibodies (monoclonal and polyclonal), cDNA and/or genomic clones, plasmids, protein(s), ELISA and other assay materials and methods, provided such materials and methods are within the Genentech Knowhow and relate to the Factor(s) currently under development hereunder;

(ii) provide funding in the form of an equity investment within 30 days of the date of execution of this Agreement by both Parties, as set forth in Section 8.01;

(iii) assist, as reasonably requested by CTI, with experimental design and evaluation and, [*] of injected animals;

(iv) assist, as reasonably requested by CTI, with the selection and optimization of the cell line(s) producing relevant Factor(s) to be used in Licensed Products; and

(v) assist, as reasonably requested by CTI, in CTI's filing of regulatory applications (as described in Section 3.02 (v)) by allowing CTI to cross reference or otherwise get the benefit of relevant Genentech regulatory filings, if any.

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3.04 TERM OF DEVELOPMENT PROGRAM. Unless otherwise agreed in writing by the Parties, the Development Program shall have a duration of [*]. At the earlier of the end of the term of the Development Program or the completion of the Initial Clinical Trial, Genentech will decide whether to continue the Development Program, proceed to the Clinical Development Program, or terminate the program, all as provided in Section 4.05.

ARTICLE IV

CLINICAL DEVELOPMENT PROGRAM

4.01 OBJECTIVES OF CLINICAL DEVELOPMENT PROGRAM. The Parties agree that the "Clinical Development Program" includes, among other items, all human clinical studies of Licensed Products directed toward approval of a Submission in the United States (after the Initial Clinical Trial), manufacturing scale-up and other work to develop and commercialize Licensed Products. The Parties agree that the success of the Clinical Development Program depends on the achievement of the following objectives:

(i) performing any further pre-clinical studies required to complete the comprehensive data package necessary to make regulatory filings;

(ii) scaling up the manufacturing process so that it can be used to make Clinical Product and Commercial Product;

(iii) performing clinical studies designed to obtain regulatory approval for the sale of Licensed Product(s); and

(iv) filing Submissions to obtain approvals to market and sell Licensed Products, provided that the product labeling for all Licensed Product shall be in the name of Genentech or as Genentech or its permitted sublicensees may reasonably designate (consistent with applicable law and regulation). Each Party agrees to take such further actions as to regulatory matters as are appropriate and reasonably requested by the other Party to carry out the purposes of this Agreement (including, without limitation, adjusting the name of the Party(s) in which regulatory filings

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are made).

The Parties further agree that the initial goal of the Clinical Development Program is to file Submissions to gain approvals to market and sell Licensed Product in the Major Market Countries, in each case, as soon as is commercially and technically reasonable from the date of the decision of Genentech, if any, to continue the Clinical Development Program after the Phase II Clinical Trial after the review pursuant to Section 4.05(c).

4.02 OBLIGATIONS OF GENENTECH IN THE CLINICAL DEVELOPMENT PROGRAM. Genentech shall provide the following assistance and be responsible for the following items in the conduct of the Clinical Development Program:

(i) perform and pay for clinical studies designed to obtain regulatory approval for the sale of Licensed Product(s) outside the United States;

(ii) make regulatory filings in the name of Genentech (or its permitted sublicensees) with regulatory authorities to obtain approvals to market and sell Licensed Products outside the United States;

(iii) be responsible for all regulatory matters with respect to Licensed Products outside the United States, subject to Sections 4.01(iv) and 4.03(vi);

(iv) provide financing for CTI, if needed, pursuant to Section 4.07;

(v) assist, as reasonably requested by CTI, in CTI's filing of regulatory applications (as described in Section 4.01(iv)) by allowing CTI to cross reference or otherwise get the benefit of relevant Genentech regulatory filings, if any, solely for use in connection with the development or manufacture of Licensed Product; and

(vi) conduct and pay for any Phase IV Clinical Trials, subject to the other terms of this Agreement relating to sharing of Net Profits.

4.03 OBLIGATIONS OF CTI IN THE CLINICAL DEVELOPMENT PROGRAM. CTI shall provide the following assistance and be responsible for the following items in the conduct of the Clinical Development Program as set forth in the Development Plan:

(i) upon Genentech's decision(s), if any, to proceed with the Clinical Development Program after the reviews pursuant to Sections 4.05(b) and 4.05(c), conduct Phase II Clinical Trial(s) and U.S. Phase III Clinical Trial(s) as directed by the Development Committee;

(ii) pay all Phase II Clinical Development Expenses pursuant to Section 4.07(b);

(iii) pay [*] of U.S. Phase III Clinical Development Expenses pursuant to Section 4.07(c);

(iv) be responsible for all regulatory matters with respect to Licensed Product in the United States, pursuant to Section 4.01 (iv) above;

(v) develop a commercial-scale manufacturing process to produce Clinical Product and then Commercial Product for the first U.S. Phase III Clinical Trial at a time that is mutually agreed upon by both Parties, but no later than [*] after Genentech commits, if at all, to commence the first Phase III Clinical Trial after the review pursuant to Section 4.05(c); and

(vi) assist, as reasonably requested by Genentech or its permitted sublicensees, in filing of regulatory applications (as described in Sections 4.01(iv)) by allowing Genentech and its permitted sublicensees to cross reference or otherwise get the benefit of relevant CTI regulatory filings, if any, solely for use in connection with the development, use or sale of Licensed Product.

Each Party shall keep records of all Clinical Development Expenses incurred by it and shall provide the other Party with a reasonably detailed accounting setting forth such Clinical Development Expenses within sixty (60) days of the end of each calendar quarter during which such expenses are incurred. Each Party shall have the

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right, one time annually, upon written request and after reasonable notice, to audit the other Party's records of its Clinical Development Expenses.

Neither CTI nor Genentech shall be responsible for expenses incurred by the other Party not in the agreed-upon budgets for Clinical Development Expenses.

4.04 SHARING OF DATA. Each Party shall promptly and thoroughly disclose to the other all information and data relating to Licensed Products (but excluding information regarding fiber or implant manufacture and any Factor(s) not currently under development hereunder) resulting from any activities undertaken as a result of the Development Program or the Clinical Development Program. In addition, each Party shall promptly disclose to the other Party all safety and toxicity information it obtains on the Factor(s) currently under development hereunder from human clinical studies or pre-clinical studies (where such clinical or pre-clinical data is or should, under applicable laws and regulations, be filed as part of a U.S. IND or as part of a subsequent regulatory document including a Submission). Absent agreement to the contrary, all such information and data shall be considered Genentech or CTI Knowhow, as the case may be, and held confidential pursuant to Section 9.01.

4.05 REVIEW OF RESULTS; GENENTECH RIGHTS. The Parties shall review the results of each of the following promptly upon completion of the following:

(a) The [*] (as each are described in the Development Plan);

(b) The Initial Clinical Trial; and

(c) The first Phase II Trial which will allow the Parties to meet with the FDA to discuss the first U.S. Phase III Clinical Trial.

Genentech shall have the right in its sole discretion to decide whether or not the Parties shall continue the development of Licensed Product hereunder, after each of the reviews set forth in clauses (a), (b) and (c) above; as provided in Section 2.03 above, after a Genentech decision (if any) to proceed forward after the review under Section 4.05(c), both Parties shall have an equal vote in decisions affecting a U.S. Clinical Phase III Trial. If Genentech decides to continue the development of Licensed

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Product after each of the reviews referred to above, the Parties shall proceed with the Development Program (in the case of (a)) or the Clinical Development Program (in the case of (b) and (c)). If Genentech decides not to proceed with the Development Program and Clinical Development Program, as the case may be, the Parties shall in good faith consider alternatives, including without limitation, modifying the Development Program and Clinical Development Program and/or licensing CTI to make, use and sell Licensed Product, or terminating this Agreement under Section 10.06(a). Notwithstanding the foregoing, Genentech shall not be obligated to grant CTI a license. If the Parties do not agree to work together further as provided in Section 10.06(a), either Party shall have the right to terminate this Agreement pursuant to Section 10.06(a).

4.06 SUPPLY AGREEMENT. Genentech and CTI shall negotiate in good faith a supply agreement for Clinical Product for Genentech and its permitted sublicensees for clinical trials outside the United States at such time as Genentech believes it is appropriate but no later than [*] after a decision by Genentech, if any, under Section 4.05(b) to proceed with the Clinical Development Program (the "Clinical Supply Agreement") and a supply agreement for Commercial Product for Genentech and its permitted sublicensees (the "Commercial Supply Agreement") at such time as the Development Committee believes it is appropriate, provided that negotiations for the Commercial Supply Agreement shall begin no later than the commencement of the first Phase II Clinical Trial and conclude no later than [*] prior to the expected commencement of the first Phase III Clinical Trial. The Parties shall use their best efforts to conclude the Clinical Supply Agreement within 90 days after Genentech's decision, if any, under Section 4.05(b) to proceed forward with the Clinical Development Program. CTI shall have the obligation to supply Genentech and its permitted sublicensees as provided herein and in such supply agreements. For purposes of this Agreement and each Supply Agreement, for supply of Clinical Product and Commercial Product by CTI to Genentech and its permitted sublicensees, CTI shall be entitled to CTI's Fully Burdened Manufacturing Cost for such Clinical Product, and, commencing with the First Commercial Introduction of the Licensed Product that is such Commercial Product, CTI's Fully Burdened Manufacturing Cost for such Commercial Product. The parties recognize that as part of such supply, there will be risks due to carrying inventory. Inside the United States, the Parties will apportion that inventory risk in proportion to the relevant profit participation of each Party pursuant to Sections 8.02 and 8.04. Outside the United States, such inventory risk

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shall be borne by Genentech pursuant to Sections 8.03 and 8.04. For these purposes, "inventory risk" shall be the risk of loss for Licensed Product subsequent to delivery of such Licensed Product to Genentech pursuant to a binding purchase order from Genentech.

At the time the Parties begin to negotiate the Commercial Supply Agreement, they shall negotiate and agree in good faith a cap on both CTI's Fully Burdened Manufacturing Costs and Genentech's Sales, General and Administrative Expense. If either Party subsequently determines in good faith that its costs for these items will exceed the agreed upon cap, subject to review and approval by the Finance Committee, the Parties shall agree in writing to adjust the cap upward to equal the actual costs, for the period of time in which they exceed that cap.

At the time the Parties enter into either Supply Agreement, they shall discuss whether and under what terms Genentech may purchase a joint ownership interest in the facilities producing Licensed Product.

In addition to the above terms, the Commercial Supply Agreement shall contain a provision setting forth the minimum purchases that Genentech and its permitted sublicensees (in the aggregate) shall be required to make thereunder and the minimum supply capacity CTI must maintain to supply Licensed Product hereunder. Genentech, on behalf of itself and its permitted sublicensees, shall make first estimates (based on market projections) for purposes of required minimum purchases at the time of Genentech's entering into the Supply Agreement, and annually thereafter. CTI intends to use such estimates to determine the capacity of the plant it must build. Accordingly, CTI will not be required to produce more than [*] but shall be required to produce at least [*], of Genentech's purchase estimate, on behalf of itself and its permitted sublicensees, made closest to, but not less than, 18 months prior to First Commercial Introduction for each of the first three years that it supplies Commercial Product to Genentech and its permitted sublicensees. Actual purchases of Licensed Product supplied by CTI shall be pursuant to firm purchase orders from Genentech, but for purposes of maintaining the foregoing capacity protections for each Party in the Commercial Supply Agreement the Parties shall agree upon appropriate percentages beyond which such firm orders for supply of Licensed Product may not vary (above or below) the [*] range of the previously provided estimates, and CTI shall be obligated to supply, and Genentech (on behalf of itself and its permitted sublicensees)

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shall be obligated to purchase at least [*] of amounts of Licensed Product under such firm purchase orders in accordance with the foregoing and the "inventory risk" provisions set forth above in this Section 4.06. Genentech shall be permitted to revise its minimum purchase projections yearly, but such revision shall not affect the maximum amount of Commercial Product CTI must supply for the first three years. The Supply Agreement shall also provide for good faith, rolling forecasts covering a time period of at least 24 months with maximum supply obligations determined so as to allow Genentech and its permitted sublicensees to meet market needs and allow CTI reasonable time to build, validate and obtain approval of necessary facilities to supply Licensed Products in the Territory. The Supply Agreement shall contain a provision to protect CTI against idle plant capacity after expansion of such facilities, to the extent such facilities were built to supply such Licensed Product (with reasonable apportionment where other parties, including CTI, are also supplied by such plant capacity). The Supply Agreement shall provide that CTI shall treat Genentech and its permitted sublicensees as CTI's highest priority customer for supply of Licensed Product, and shall provide for flexibility for Genentech and its permitted sublicensees to change purchase orders and require CTI to promptly replace non-conforming or otherwise defective product supplied thereunder.

In addition, each Supply Agreement shall contain provisions regarding breach similar to those set forth in this Agreement, including those governing the transfer of manufacturing technology from CTI to Genentech for manufacture of Licensed Product in the Territory and shall provide that a breach under such Supply Agreement shall be a breach hereunder. During the period of such a transfer, CTI shall continue to treat Genentech on behalf of it and its permitted sublicensees as its highest priority customer for supply of Licensed Product. The Parties agree that the technology transfer will involve the need for CTI employees to train Genentech employees. CTI will pay the salaries of its employees doing such training, and Genentech will pay the salaries of its employees receiving such training as well as all expenses incurred in constructing a Genentech facility for producing Licensed Product.

4.07 (a) FUNDING OF DEVELOPMENT THROUGH THE INITIAL CLINICAL TRIAL. Pursuant to Section 8.01(a), Genentech has agreed to purchase the agreed-upon amount of Common Stock to provide funding for Development Expenses. If CTI reasonably determines that Development Expenses will exceed those previously agreed-upon, it shall notify Genentech. The Parties shall meet and agree if additional

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Development Expenses beyond those agreed-upon will be required. If the Parties agree additional Development Expenses will be incurred and on the amount of such additional Development Expenses, to the extent that such agreed-upon CTI Development Expenses will exceed the funding provided by Genentech's equity purchase pursuant to Section 8.01(a), Genentech shall purchase sufficient additional equity, pursuant to an agreement in the form of the Stock Purchase Agreement and at a price equal to one hundred percent (100%) of the 20 Day Average of CTI's Common Stock, to fund in advance, the remainder of such agreed-upon CTI Development Expenses. In no case shall CTI be required to fund such additional expenses unless Genentech, in fact, makes the additional equity purchase contemplated hereunder to cover such Development Expenses.

If the amount of funding received by CTI pursuant to Sections 4.07(a) and 8.01(a) exceeds the Development Expenses incurred by CTI through the completion of analysis of the results of the Initial Clinical Trial or as of any earlier termination of the Development Program or this Agreement, CTI shall provide written notice to Genentech of the amount of such "overfunding". CTI shall apply such "overfunding" to the Clinical Development Expenses to be incurred by CTI under Section 4.07(b), except as otherwise provided hereinbelow, and except that if such "overfunding" totals [*] or less, CTI shall be entitled to retain such excess and shall not be required to apply it against any future work under this Agreement or against redemption of CTI's Common Stock as otherwise provided hereinbelow. Subject to the foregoing, if the amount of such funding under Sections 4.07(a) and 8.01(a) exceeds the Development Expenses incurred by CTI and CTI cannot apply such "overfunding" to the Clinical Development Expenses to be incurred because (i) Genentech has determined pursuant to Section 4.05 not to proceed forward with the Clinical Development Program or (ii) this Agreement has been terminated at any time for any other reason (except termination by CTI in accordance with this Agreement due to Genentech's uncured default, in which case the provisions of this paragraph shall apply except that CTI shall be entitled to retain "overfunding" in an amount equal to CTI's already incurred costs for its work under this Agreement), then Genentech shall have the rights and CTI the obligations set forth hereinbelow. If Genentech so requests in writing within sixty (60) days after, as applicable, Genentech's decision under Section 4.05 not to proceed forward or the effective date of termination of this Agreement (except as otherwise provided above with respect to Genentech's uncured default), within thirty (30) days after such request CTI shall pay such overfunding

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amount to Genentech against Genentech's delivery to CTI of that number of shares of CTI's Common Stock equal to such overfunding amount divided by the price for such Common Stock paid by Genentech under Section 8.01(a) (or, if such overfunding is attributable only to CTI's receipt of additional funding from Genentech under 4.07(a), the price paid for such Common Stock under Section 4.07(a)). In calculating the overfunding amount, CTI shall calculate the total amount of expenses incurred by CTI hereunder based on the total expenses incurred for performance of the tasks approved by the Development Committee (without regard to categories of budgeted amounts).

(b) FUNDING OF DEVELOPMENT THROUGH PHASE II CLINICAL TRIAL ANALYSIS. Upon Genentech's decision pursuant to Section 4.05(b) to commence the Clinical Development Program, pursuant to Section 8.01(b) Genentech will purchase Common Stock pursuant to an agreement in the form of the Stock Purchase Agreement, in an amount equal to the agreed-upon Phase II Clinical Development Expenses. If CTI reasonably determines that its Phase II Clinical Development Expenses will exceed those previously agreed-upon (subject to the following paragraph), it shall notify Genentech. The Parties shall meet and agree if additional Phase II Clinical Development Expenses beyond those agreed-upon will be required. If the Parties agree additional Phase II Clinical Development Expenses will be incurred and on the amount of such additional expenses, to the extent that such agreed-upon CTI Phase II Clinical Development Expenses will exceed the funding provided by Genentech's equity purchase pursuant to Section 8.01(b), Genentech shall purchase sufficient additional equity, pursuant to an agreement in the form of the Stock Purchase Agreement and at a price equal to one hundred percent (100%) of the 20 Day Average of CTI's Common Stock, to fund, in advance, the remainder of such agreed-upon CTI Phase II Clinical Development Expenses. In no case shall CTI be required to fund such additional Phase II Clinical Development Expenses unless Genentech, in fact, makes the additional equity purchase contemplated hereunder to cover such Phase II Clinical Development Expenses.

If the amount of funding received by CTI pursuant to Sections 4.07(a) and (b) and 8.01(b) exceeds the Development Expenses and Clinical Development Expenses incurred by CTI through the completion of analysis of the results of the last Phase II Clinical Trial of a Licensed Product prior to commencement of funding under Section 4.07(d), or as of any earlier termination of the Clinical Development Program or this

Agreement, CTI shall provide written notice to Genentech of the amount of such "overfunding". CTI shall apply such "overfunding" to CTI's share of the U.S. Phase III Clinical Development Expenses to be borne by CTI pursuant to Section 4.07(d), except that if such "overfunding" totals [*] or less, CTI shall be entitled to retain such excess and shall not be required to apply it against any future work under this Agreement or redemption of CTI's Common Stock as otherwise provided hereinbelow. Subject to the foregoing, if the amount of funding under Sections 4.07(a) and (b) and 8.01(b) exceeds the Development Expenses and Clinical Development Expenses incurred by CTI and CTI cannot apply such "overfunding" to its share of the U.S. Phase III Clinical Development Expenses to be borne by CTI because (i) Genentech has determined pursuant to Section 4.05 not to proceed forward with the Clinical Development Program or (ii) this Agreement has been terminated at any time for any other reason (except termination by CTI in accordance with this Agreement due to Genentech's uncured default, in which case the provisions of this paragraph shall apply except that CTI shall be entitled to retain "overfunding" in an amount equal to CTI's already incurred costs for its work under this Agreement), then Genentech shall have the rights and CTI the obligations set forth hereinbelow. If Genentech so requests in writing within sixty (60) days after, as applicable, Genentech's decision under Section 4.05 not to proceed forward or the effective date of termination of this Agreement (except as otherwise provided above with respect to Genentech's uncured default), within thirty (30) days after such request CTI shall pay such overfunding amount to Genentech against Genentech's delivery to CTI of that number of shares of CTI's Common Stock equal to such overfunding amount divided by the price for such Common Stock paid by Genentech under Section 8.01(b) (or, if such overfunding is attributable only to CTI's receipt of additional funding from Genentech under 4.07(b), the price paid for such Common Stock under 4.07(b)). In calculating the overfunding amount, CTI shall calculate the total amount of expenses incurred by CTI hereunder based on the total expenses incurred for performance of the tasks approved by the Development Committee (without regard to categories of budgeted amounts).

(c) RECORDS. In connection with any application of "overfunding" to future work or redemption of CTI Common Stock as provided in Sections 4.07(a) or (b), CTI shall keep complete and accurate records of its expenses hereunder, and Genentech shall have the right, upon written request after reasonable notice, to have an independent certified public accountant reasonably acceptable to CTI, review such records for the

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purposes of verifying such "overfunding", if any. This right may not be exercised more than once in any calendar year. Results of such review shall be made available to both Parties. The provisions of Sections 4.07(a), (b) and (c) regarding overfunding shall survive any termination of this Agreement.

(d) FUNDING OF U.S. PHASE III CLINICAL DEVELOPMENT EXPENSES. If Genentech decides to continue the Clinical Development Program after the review under Section 4.05(c), the Parties shall agree on a budget for U.S. Phase III Clinical Development Expenses. As provided below in this Section 4.07(d), CTI shall pay [*] of the agreed-upon U.S. Phase III Clinical Development Expenses; such [*] shall be financed by Genentech providing CTI with a revolving line of credit in the principal amount of the to be agreed-upon [*] of U.S. Phase III Clinical Development Expenses (less the amount of any overfunding, if any, applied by CTI as provided in Section 4.07(b)), which line of credit shall bear interest on the outstanding principal amount at a rate equal to LIBOR (as quoted for one month in The Wall Street Journal) plus [*] compounded quarterly. Subject to Section 10.07(a), such revolving loan shall be repaid in full (and shall not be available for further borrowing by CTI) within [*] days after the earlier of (i) seven (7) years from the date funds are first drawn down under such line of credit or (ii) the earlier of (A) of the completion of the analysis of all U.S. Phase III Clinical Trial(s) directed by the Development Committee, (B) termination of the last U.S. Phase III Trial (if terminated prior to its term), or (C) termination of this Agreement (as provided in Section 10.07 (a)(ii)). Notwithstanding the foregoing, under the loan documentation to be entered into by the Parties, in the event of any event of default under such loan documentation, including any CTI failure to repay the total amount of the loan (principal plus interest) then outstanding, Genentech shall have the right to convert the total amount of the loan outstanding into registered shares of Common Stock of CTI.

Such revolving loan may be prepaid by CTI at any time; CTI shall give Genentech at least [*] days notice of any such prepayment. CTI may make any payment under such loan in whole or in part by issuing to Genentech shares of CTI stock, which shall be valued at price per share equal to one hundred percent (100%) of the 20 Day Average of CTI's Common Stock. The loan under the revolving line of credit shall be unsecured and fully subordinated to all other CTI liabilities.

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At the time, if any, that Genentech elects to proceed under Section 4.05(c) to a U.S. Phase III Clinical Trial, the Parties shall agree on any additional necessary terms of the line of credit.

The Parties expect to pay for U.S. Phase III Clinical Development Expenses equally. The Parties shall invoice each other for actual U.S. Phase III Clinical Development Expenses; [*] is payable by Genentech. Genentech shall pay the full amount it owes under such invoices and shall draw down from the line of credit the amount CTI owes under such invoices, as contemplated by this Section 4.07(d). If at any time either Party has paid more than its share of such expenses, as provided in this Agreement, the Parties shall fairly adjust the reimbursement of such expenses.

Each Party shall keep complete and accurate records of the latest three (3) years of its U.S. Phase III Clinical Development Expenses. Each Party shall have the right at its own expense to have an independent certified public accountant, reasonably acceptable to the other Party, review such records upon reasonable notice and during reasonable business hours for the purposes of verifying reimbursement hereunder. This right may not be exercised more than once in any calendar year. Results of such review shall be made available to both Parties. If the review reflects an overpayment of U.S. Phase III Clinical Development Expenses by either Party, any such overpayment shall be promptly remitted to the other Party with interest as provided in Section 8.04. If the overpayment is equal to or greater than five percent (5%) of invoiced U.S. Phase III Clinical Development Expenses, the overpaying Party shall be entitled to have the other Party pay all of the costs of such review. The provisions of this Section 4.07(d) shall survive termination of this Agreement.

ARTICLE V

GRANT OF RIGHTS

5.01 GRANT BY CTI. CTI hereby grants to Genentech, under the CTI Patent Rights and CTI Knowhow, (i) a [*] license (with CTI) [*] such Patent Rights and Knowhow for [*] of Licensed Products in the United States in accordance with the Development Program agreed upon by the Parties, and (ii) an

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[*] license (even as to CTI) to [*] Licensed Products in the Territory outside the United States, and to [*] Licensed Products throughout the Territory and (iii) in the event that manufacturing technology is transferred to Genentech pursuant to Section 10.04, an [*] Licensed Products in the Territory.

5.02 GRANT BY GENENTECH. Genentech hereby grants to CTI, under the Genentech Patent Rights and Genentech Knowhow, (i) a [*] to use such Patent Rights and Knowhow for [*] of Licensed Products in the Territory in accordance with the Development Program agreed upon by the Parties, and (ii) an [*] license for the [*] of Licensed Products in the Territory up through review of results of the primate efficacy study and diffusion study referred to in Section 4.05 (a), and (iii) if and only if Genentech elects to continue development after the review under Section 4.05(a), an [*] of Licensed Products in the Territory up through the review of results of the Initial Clinical Trial, and (iv) if and only if Genentech elects to continue development after the review under Section 4.05(b), an [*] of Licensed Products in the Territory up through review of results of the relevant Phase II Clinical Trial and (v) if and only if Genentech elects to continue development after the review under Section 4.05(c), an [*] Licensed Products in the Territory for supply to Genentech and its permitted sublicensees hereunder (so long as [*] are met and CTI is not in breach under this Agreement).

5.03 DUE DILIGENCE. Genentech and CTI shall use due diligence in developing and seeking marketing approvals for Licensed Products as contemplated by this Agreement. As used in this Section 5.03, "due diligence" shall mean a reasonable effort consistent with sound business judgment and shall include all steps reasonably necessary to enable and facilitate the development and marketing of Licensed Products. In particular, CTI shall use its reasonable best efforts to complete the work under the Development Program within the [*] specified in Section 3.04, and, if Genentech elects to proceed forward with development after the reviews under Sections 4.05(b) and (c), to complete the first Phase II Clinical Trial and the first U.S. Phase III Clinical Trial in accordance with timelines agreed upon by the Parties.

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5.04 SUBLICENSES. Neither Genentech nor CTI shall have the right to grant sublicenses to third parties under the licenses received under Sections 5.01 or 5.02 unless otherwise mutually agreed in writing; provided, however, that (i) Genentech may grant sublicenses of its rights hereunder to Affiliates without obtaining CTI's consent and (ii) Genentech may sublicense the rights granted to it hereunder to market and sell Licensed Product in the Territory to any third party without obtaining CTI's consent. Any permitted sublicensee shall commit in writing to abide by all applicable terms and conditions of this Agreement. Each party shall be responsible for compliance by its sublicensee(s) with such sublicensee's obligations under its sublicense.

5.05 OTHER MOLECULES. During the term of this Agreement, CTI agrees that it will [*].

ARTICLE VI

MARKETING OF LICENSED PRODUCT

6.01 MARKETING RESPONSIBILITIES. Genentech shall have the sole responsibility for sales and marketing of Licensed Product in the Territory.

6.02 MARKETING DUE DILIGENCE. In addition to the due diligence obligations of the Parties set forth in Section 5.03, Genentech agrees to use its reasonable best efforts to market and sell Licensed Product throughout the Territory, provided that with respect to a given country or territory in the Territory, approvals to market and sell Licensed Product have been received in such country or territory.

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ARTICLE VII

PATENTS, KNOWHOW AND INVENTIONS

7.01 OWNERSHIP. Genentech shall retain sole title to the Genentech Knowhow and the Genentech Patent Rights as presently existing and as developed or invented by Genentech or on its behalf during the term of this Agreement, and shall have sole title to any improvements to the CTI Knowhow or CTI Patent Rights developed or invented solely by Genentech or on its behalf during the term of this Agreement. CTI shall retain sole title to the CTI Knowhow and the CTI Patent Rights as presently existing and as developed or invented by CTI or on its behalf during the term of this Agreement, and shall have sole title to any improvements to the Genentech Knowhow or Genentech Patent Rights developed or invented solely by CTI or on its behalf during the term of this Agreement. The Parties shall jointly own any improvements to any Knowhow or Patent Rights developed or invented by both Parties or on their behalf during the term of this Agreement. Designation of inventor(s) on any patent application is a matter of applicable laws, and shall be solely within the discretion of qualified patent counsel of Genentech and CTI to determine in accordance with applicable laws of inventorship and competent evidence of the Parties.

7.02 PURSUIT OF SOLE PATENT APPLICATIONS.

Each Party shall, to the extent it elects to do so and at its own cost and expense, prepare, file, prosecute and maintain patent applications and patents covering (i) any of its own Knowhow or solely owned improvements to its Knowhow or Patent Rights (under Section 7.01), or (ii) any improvements to its own Knowhow or Patent Rights developed and owned solely by the other Party (under Section 7.01). Neither Party shall withdraw or abandon any of such Patent Rights or any of such applications and/or resulting Patent Rights without providing the other Party a free of charge option for a period of 90 days to assume the prosecution and/or maintenance thereof at its own expense.

7.03 RESIDUAL RIGHTS; GRANT BACK. Subject to the grant of exclusive rights under Article V during the term of this Agreement, each Party shall be free to use,

license and/or transfer as it sees fit (i) its own Patent Rights and Knowhow, (ii) any improvements to its own Patent Rights or Knowhow solely owned by it under Section 7.01, (iii) its interest in jointly owned improvements to Knowhow or Patent Rights under Section 7.01, and (iv) its interest in Joint Patent Rights under Section 7.04. During the term of this Agreement, Genentech hereby grants back to CTI an exclusive (except as to Genentech under Article V) right and license to use, sublicense and/or transfer as CTI sees fit any improvements to CTI Knowhow or CTI Patent Rights solely owned by Genentech under Section 7.01, and during the term of this Agreement CTI hereby grants back to Genentech an exclusive (except as to CTI under Article V) right and license to use, sublicense and/or transfer as Genentech sees fit any improvements to Genentech Knowhow or Genentech Patent Rights solely owned by CTI under Section 7.01. Each Party shall notify the other Party promptly if it solely develops or invents any improvements to the other Party's Knowhow or Patent Rights as contemplated in Section 7.01.

7.04 JOINT PATENTS. In the event that it is determined, in accordance with Section 7.01, that both: (i) employees or agents of Genentech or any other persons obliged to assign such invention to Genentech, and (ii) employees or agents of CTI or any other persons obliged to assign such invention to CTI, are joint inventors of an invention, the Parties shall jointly own patents, inventor's certificates and applications therefor covering such invention. Genentech shall prosecute all such patents claiming Factors, and CTI shall prosecute all such patents claiming the Encapsulation Technology. If a patent claims both Factors and the Encapsulation Technology, Genentech shall determine whether and how to prosecute any such potential patent application and be responsible for all costs incurred in prosecution. In making such determination, Genentech shall take into account the interests of both Parties and CTI shall have the right to file (or continue, as the case may be) at its expense, a patent application claiming the Encapsulation Technology to the extent that Genentech decides not to file or to continue to prosecute a patent application claiming such Encapsulation Technology. Notwithstanding the foregoing, the Parties shall assist each other to the maximum extent reasonable in securing intellectual property rights resulting from activities conducted hereunder. Either Party may withdraw from or abandon any jointly-owned patent or patent application, on notice to the other providing a free-of-charge option to assume the prosecution and/or maintenance thereof at its own cost and expense.

7.05 INFRINGEMENT OF SOLE PATENTS. If a Party considers that any of the Patent Rights of the other is being infringed by a third party, the former shall promptly notify the latter and shall provide it with any evidence of any infringement which is reasonably available. The Party owning the Patent Rights shall have the first opportunity at its own expense to attempt to remove such infringement by appropriate steps including suit. In such event, the other Party will assist in taking such steps, including suit, within reasonable limits, and any amount recovered as a result thereof shall be for the account of the Party owning the Patent Rights. In the event the Party owning the Patent Rights fails to take appropriate steps, including suit and legal action with respect to any such infringement within a period of six months following such notice of infringement, the other Party shall have the right to take any appropriate steps, including suit, against the infringer at its own expense and in its name. In such event, the owner of the Patent Rights shall assist the Party bringing suit as reasonably requested and shall permit the Party bringing suit to use its name in the suit. The expenses reasonably incurred in taking such steps, including suit and legal action, and any amount recovered as a result thereof shall be for the account of the Party taking such action, and the Party not taking such action shall be reimbursed for its out-of pocket expenses in connection with such suit or action.

7.06 INFRINGEMENT OF JOINT PATENT RIGHTS. In the event that any jointly-owned Patent Right shall be infringed, then the Parties agree to consult with each other as to the best manner in which to proceed. Should the Parties fail to agree on a joint program of action and the understanding relating thereto with respect to distribution of expenses and recoveries, then either Party shall have the right to enforce such jointly-owned patent at its sole expense and any recovery shall be first applied to reimbursing the Party for the out-of-pocket expenses incurred in bringing such suit or action and the remainder, if any, shall be divided appropriately between the Parties with reference to the relative monetary injury suffered by each by reason of the past infringement for which said amounts are recovered. The other Party shall agree to be joined in such suit and may, at its option, be represented by counsel of its choosing and at its own expense.

7.07 THIRD PARTY INTELLECTUAL PROPERTY RIGHTS. Subject to the other terms of this Agreement, each of the Parties shall be responsible for [*] hereunder. Each Party shall promptly notify the other Party of it becoming aware of

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any payments which will be due to third parties on account of intellectual property rights and the amount of such payments.

[*]

7.08 SURVIVAL. Sections 7.01, 7.02, 7.03 and 7.04 shall survive the termination or expiration of this Agreement.

ARTICLE VIII

PAYMENTS AND PROFIT SHARING

8.01 EQUITY INVESTMENT.

(a) Initial Equity Purchase. Pursuant to an agreement in the form of the Stock Purchase Agreement, Genentech shall purchase Eight Million Three Hundred Thousand Dollars ($8,300,000) worth of CTI Common Stock on the date approximately thirty (30) days after the execution of this Agreement by both Parties, at a price per share equal to one hundred ten percent (110%) of the 20 Day Average of CTI's Common Stock. For purposes of the foregoing, the Parties agree that the 20 Day Average shall be calculated using the [*] of this Agreement. In addition Genentech shall purchase additional stock, if necessary, pursuant to Section 4.07(a), at a price per share equal to one hundred percent (100%) of the 20-Day Average of CTI's Common Stock on a purchase date to be agreed upon.

(b) Phase II Equity Purchase. Pursuant to an agreement in the form of the Stock Purchase Agreement, if Genentech has decided to proceed with the Clinical Development Program after the review under Section 4.05(b), and prior to starting the first Phase II Clinical Trial, if at all, Genentech shall purchase CTI Common Stock in an amount equal to the agreed-upon Phase II Clinical Development Expenses, at a price equal to one hundred percent (100%) of the 20 Day Average of CTI's Common Stock. In addition Genentech shall purchase additional stock, if necessary, pursuant to

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Section 4.07(b), at a price per share equal to one hundred percent (100%) of the 20-Day Average of CTI's Common Stock on a purchase date to be agreed upon.

8.02 NET PROFITS INSIDE THE UNITED STATES. Commencing with the First Commercial Introduction of a Licensed Product in the United States and subject to the other terms of this Agreement, during the term of this Agreement, CTI shall be entitled to [*] of the Net Profits for each Licensed Product sold or disposed of for value in the United States by Genentech and its permitted sublicensees and Genentech shall be entitled to [*] of such Net Profits; CTI shall also be entitled to payment for such License Product, if supplied by CTI hereunder, as provided in Section 4.06 and the Commercial Supply Agreement.

If in any Accounting Period "Net Profits" are negative, such loss shall, for CTI, be carried forward and offset against CTI's share of future Net Profits. Such loss shall bear interest on the outstanding principal amount at a rate equal to LIBOR (for one month as quoted in The Wall Street Journal) plus [*] compounded quarterly.

8.03 NET SALES OUTSIDE THE UNITED STATES. Commencing with the First Commercial Introduction of the Licensed Product outside the United States and subject to the other terms hereof (including, without limitation, Section 10.04), during the term of this Agreement, Genentech agrees to pay CTI, as consideration for the rights granted hereunder, [*] of Net Sales of Licensed Product by Genentech and its sublicensees in the Territory outside the United States and (ii) payment for such Licensed Product, if supplied by CTI hereunder, as provided in Section 4.06 and the Commercial Supply Agreement.

8.04 PAYMENT DATES AND STATEMENTS. Within sixty (60) days of the end of each Accounting Period in which Net Sales occurred for purposes of Section 8.02 and ninety (90) days of the end of each Accounting Period in which Net Sales occurred for purposes of Section 8.03, Genentech shall calculate all amounts owed by Genentech to CTI under Section 8.02 or 8.03 and shall send to CTI the net amount owed to CTI or, if appropriate, a statement of the loss carried forward by Genentech on behalf of CTI plus interest thereon as specified herein. Such payment shall be accompanied by a statement for the Accounting Period showing the calculation of the amount owed and for each country in the Territory, the total Net Sales of each Licensed Product by

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Genentech and its permitted sublicensees, the exchange rate used to directly convert any of the above amounts into U.S. Dollars, and, in the case of Net Sales inside the United States, the Cost of Sales for each Licensed Product during that Accounting Period, the Sales, General and Administrative Expense (and the calculation thereof), the Launch Expenses, the Phase IV Clinical Trial Expenses, the Net Profit, and the amount of any CTI loss carried forward. For purposes of determining when a sale of a Licensed Product occurs, the sale shall be deemed to occur on the date the Licensed Product is shipped to a third party. Any payment owed under Section 8.02 or 8.03 that is not paid on or before the date such payment is due under this Agreement shall bear interest, to the extent permitted by applicable law, at two percentage points (2%) over the prime rate of interest as reported by Bank of America NT&SA in San Francisco, California from time to time, calculated on the number of days such payment is delinquent.

8.05 RECORDS AND ACCOUNTING

(a) Genentech and its permitted sublicensees shall keep complete and accurate records of the latest three (3) years of Net Sales and, for sales of Licensed Products in the United States, Cost of Sales, Sales, General and Administrative Expense, Launch Expenses and Phase IV Clinical Trial Expenses. CTI shall have the right at its own expense to have an independent, certified public accountant, reasonably acceptable to Genentech (or any relevant sublicensee), review such records upon reasonable notice and during reasonable business hours for the purposes of verifying royalties payable to CTI, Net Sales, and Net Profits. This right may not be exercised more than once in any calendar year. Results of such review shall be made available to both Parties. If the review reflects an underpayment of royalties or Net Profits to CTI, such underpayment shall be promptly remitted to CTI with interest as provided in Section 8.04. If the underpayment is equal to or greater than five percent (5%) of Net Profits that was otherwise due, CTI shall be entitled to have Genentech pay all of the costs of such review. If the review reflects an overpayment of royalties and Net Profits to CTI, royalties and Net Profits for the period of such overpayment shall be recalculated and any amount due to Genentech shall be promptly paid.

(b) CTI and its permitted sublicensees shall keep complete and accurate records of the latest three (3) years of Fully Burdened Manufacturing Cost, and shall provide Genentech with a report setting forth all such items within forty-five (45) days of

the end of each Accounting Period. Genentech shall have the right at its own expense to have an independent, certified public accountant, reasonably acceptable to CTI, review such records upon reasonable notice and during reasonable business hours for the purposes of verifying the Fully Burdened Manufacturing Cost. This right may not be exercised more than once in any calendar year. Results of such review shall be made available to both Parties. If the review reflects an overpayment of the Fully Burdened Manufacturing Cost to CTI, such overpayment shall be promptly refunded to Genentech with interest as provided in Section 8.04. If the overpayment is equal to or greater than five percent (5%) of the Fully Burdened Manufacturing Cost, Genentech shall be entitled to have CTI pay all of the costs of such review. If the review reflects underreporting of CTI's Fully Burdened Manufacturing Cost, Fully Burdened Manufacturing Cost for the period of such underreporting shall be re-calculated and any amounts due to CTI shall be promptly paid.

8.06 CURRENCY OF PAYMENTS. All payments under this Agreement shall be made in United States Dollars by check or wire transfer (or such other reasonable means as a receiving Party may direct) to such bank account as may be designated from time to time. Any payments due hereunder on Net Sales outside of the United States shall be payable in United States Dollars calculated pursuant to U.S. generally accepted accounting principles consistently applied at the rate of exchange of the currency of the country in which the Net Sales were made, with such rate as is equal to the average of the rates reported in The Wall Street Journal for the first and last business day of the Accounting Period for which the Net Profit Amount or royalties are payable.

8.07 TAX WITHHOLDING. If any withholding taxes are required under the applicable laws of any country or any applicable treaty on royalty payments made hereunder, the selling Party will pay such taxes to the proper taxing authority and such tax payment will be deducted by the selling Party from the royalty payable to the owed Party. Written documentation of any such payment sufficient to satisfy the reasonable requirements of an appropriate tax authority concerning an application by the owed Party for a foreign tax credit for such payment or for similar treatment shall be secured and sent to the owed Party. The selling Party agrees to take such reasonable and lawful steps as the owed Party may request to minimize the amount of withholding taxes that must be paid pursuant to any applicable treaty to the extent permitted by such treaty. If either Party to this Agreement, by reason of the assignment of its rights

under this Agreement, as specified in Section 11.02, increases the withholding tax payable by the non-assigning Party in any taxing jurisdiction, then the assigning Party agrees to pay the non-assigning Party an amount which, net of any tax benefits which the non-assigning Party may use, would be the same as if the assignment had not occurred.

8.08 FINANCE COMMITTEE.

In connection with the sharing of Net Profits contemplated under Section 8.02, within thirty (30) days after Genentech's notice of exercise of its right to continue the Clinical Development Program after the review under Section 4.05(c), the Parties will establish a joint finance committee (the "Finance Committee"), to be comprised of two (2) representatives appointed and replaced by each Party. Such representatives will include individuals with expertise and responsibilities in the areas of accounting, cost allocation, budgeting or financial reporting. The Finance Committee will meet as requested by either Party by notice to the other Party (but in any event not more frequently than quarterly), at such times and locations as are reasonably acceptable to the Parties. All decisions and recommendations of the Finance Committee shall require the agreement of a majority of the representatives of each Party to be effective. In the event the representatives of the two Parties cannot agree on a matter, a member of senior management of each party shall confer and resolve the dispute. For this purpose, a "member of senior management" shall be a management-level employee who has the authority to bind a Party. If the members of senior management do not resolve such dispute within 60 days of such objection, the Parties shall attempt to resolve such dispute in accordance with Sections 11.19 and 11.20. The Finance Committee shall address financial, budgeting and accounting issues which arise in connection with the sharing of Net Profits contemplated under Section 8.02 above (including, without limitation, review of the Parties' respective cost structures and generally accepted accounting principles and other practical aspects of implementation of the terms of this Agreement and the amount of Cost of Sales, Fully Burdened Manufacturing Cost, Sales, General and Administrative Expense, Launch Expenses and Phase IV Clinical Trial Expenses) and the proper allocation of such costs in determining Net Profits. The Finance Committee (if any) automatically will cease to operate upon the expiration of the term of this Agreement.

ARTICLE IX

CONFIDENTIALITY AND DISTRIBUTION OF KNOWHOW

9.01 NON-DISCLOSURE. Except to the extent expressly authorized by this Agreement, the Parties agree that, for the term of this Agreement and for seven years thereafter (15 years in the case of manufacturing technology), the receiving Party shall keep completely confidential and shall not publish or otherwise disclose and shall not use for any purpose other than as contemplated by this Agreement any information furnished to it by the other Party pursuant to this Agreement (other than to employees or consultants on a need-to-know and confidential basis), except to the extent that it can be established by the receiving Party by competent proof that such information:

(a) was already known to the receiving Party, other than under an obligation of confidentiality, at the time of disclosure by the other Party;

(b) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the receiving Party;

(c) 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; or

(d) was subsequently lawfully disclosed to the receiving Party by a third party.

Information that is disclosed other than in written form shall be subject to the terms of this Section 9.01 only if confirmed in writing within thirty (30) days of disclosure and specifying that such information is subject to this Agreement. Each Party may disclose the other's information to the extent such disclosure is reasonably necessary in filing or prosecuting patent applications, prosecuting or defending litigation, complying with applicable governmental regulations or conducting clinical trials, provided that, if a Party proposes to make any such disclosure of the other Party's secret or confidential information, it will give reasonable advance notice to the other Party of such disclosure and, save to the extent inappropriate in the case of patent applications, will use its best efforts to secure confidential treatment of such information required to be disclosed. A Party may disclose confidential information to

a potential sublicensee or assignee to the extent reasonably required to negotiate a sublicense or assignment permitted hereunder; provided, however, that such potential sublicensee or assignee shall first execute a binding confidentiality agreement of term and scope at least as restrictive as the terms of this Article IX, and which confidentiality agreement shall expressly provide that the non-disclosing Party is intended to be a third-party beneficiary thereof.

9.02 PUBLICATION. Notwithstanding Section 9.01, each Party shall be free to publish the results of its activities conducted hereunder, to the extent that publication will not result in the disclosure of otherwise confidential data or Knowhow and will not conflict with the terms of the Neurturin MTA. Subject to the foregoing, at least 30 days prior to making any such publication (14 days in the case of an abstract), the publishing Party shall provide the other Party a draft of the proposed publication to afford an opportunity for comment and securing of intellectual property rights. Publication shall be delayed an additional 30 days to permit filing of patent applications upon request. Neither Party may publish the other's Knowhow without the prior written consent of the other Party.

9.03 DISTRIBUTION OF KNOWHOW.

Neither Party shall transfer any of the other Party's Knowhow (including without limitation, any Factors or genetic materials encoding therefor provided by such other Party or any proprietary information of such other Party under Section 9.01) to any third party without the express prior consent of the Party which provided such Knowhow, provided either Party may make such disclosures as are required by law or a court order (but before any such required disclosure it shall notify the other Party) or as are required as part of regulatory submissions or as required in sublicensing (provided that in cases of sublicensing, the entity receiving such Knowhow agrees to confidentiality and nonuse provisions at least as restrictive as those in this Article IX).

ARTICLE X

TERM AND TERMINATION

10.01 TERM. The term of this Agreement shall commence as of the Effective

Date set forth above. Unless sooner terminated pursuant to Sections 10.02, 10.03, 10.05 or 10.06, the term of this Agreement, the licenses granted in Sections 5.01 and 5.02 and Genentech's obligations with respect to Net Profits and royalties under Sections 8.02 and 8.03 shall expire on a [*] years from the date of First Commercial Introduction in that country. Subject to the other terms of this Agreement (including this Section 10.01), upon expiration of this Agreement on such country-by-country and Licensed Product-by-Licensed Product basis, Genentech shall have a perpetual, fully paid up, non-exclusive right and license under the CTI Knowhow and CTI Patent Rights, and any improvements thereto solely or jointly owned by CTI under Section 7.01, to develop, make, have made, use and sell such Licensed Products in such country in the Territory, and a perpetual, fully paid up, exclusive right and license in such country in the Territory to improvements to the Genentech Knowhow or Genentech Patent Rights solely developed or invented and solely owned by CTI under Section 7.01. Subject to the other terms of this Agreement, upon expiration of this Agreement CTI shall have a perpetual, fully paid-up, exclusive right and license in such country in the Territory to improvements to the CTI Knowhow or CTI Patent Rights solely developed or invented and solely owned by Genentech under Section 7.01. No later than [*] prior to the expiration of the term of the licenses granted hereunder, the Parties shall discuss the status of their relationship and shall agree, if Licensed Product is still being marketed hereunder anywhere in the world solely by Genentech or its sublicensee(s), either to extend the Supply Agreements or to transfer manufacturing technology and all necessary licenses to Genentech. Any such extended Supply Agreement(s) shall provide for a supply price of [*] of (i) Fully Burdened Manufacturing Cost plus [*] or (ii) the cap on Fully Burdened Manufacturing Cost agreed upon pursuant to Section 4.06. If no agreement is reached on supply prior to two years before such expiration, CTI shall transfer all necessary manufacturing technology in CTI's possession or control and grant all necessary licenses under the CTI Patents and CTI Knowhow (including any improvements hereunder) to Genentech (with right to sublicense) for the nonexclusive rights to make, have made, use and sell Licensed Product then under sale in the Field of Use in the Territory (but for no other purpose) and CTI shall permit Genentech and its sublicensees to reference or otherwise get the benefit of any necessary regulatory filings necessary to permit such manufacture and sale of Licensed Product. All such licenses shall be fully paid up (subject to the cost reimbursement provided below). In the event of a transfer of such technology and granting all necessary licenses to

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Genentech upon the expiration of this Agreement, Genentech shall reimburse CTI for all reasonable costs incurred by it as part of such transfer, and Genentech shall be responsible for the payment of all royalties and other amounts contractually required to be paid by CTI to third parties on account of such manufacture, use or sale by Genentech or its sublicensees.

10.02 BREACH. Failure by either Party to comply with any of its material obligations contained in this Agreement shall entitle the other Party to give to the Party in default notice specifying the nature of the default and requiring it to make good such default. If such default is not cured within 60 days after the receipt of such notice, the notifying Party shall be entitled, without prejudice to any of its other rights conferred on it by this Agreement, in addition to any other remedies available to it by law or in equity, to terminate this Agreement unless the defaulting Party shall cure such default within said 60 days. The right of either Party to terminate this Agreement, as hereinabove provided, shall not be affected in any way by its waiver of failure to take action with respect to any previous default.

10.03 INSOLVENCY OR BANKRUPTCY. Either Party may, in addition to any other remedies available to it by law or in equity, terminate this Agreement by written notice to the other Party in the event the other Party shall have become insolvent or bankrupt, or shall have made an assignment for the benefit of its creditors, or there shall have been appointed a trustee or receiver of the other Party or for all or a substantial part of its property, or any case or proceeding shall have been commenced or some other action taken by or against the other Party in bankruptcy or seeking reorganization, liquidation, dissolution, winding-up, arrangement, composition or readjustment of its debts or any other relief under any bankruptcy, insolvency, reorganization or other similar act or law of any jurisdiction now or hereafter in effect or there shall have been issued a warrant of attachment, execution, distraint or similar process against any substantial part of the property of the other Party, and any such event shall have continued for 60 days undismissed, unbounded and undischarged; provided, however, that no such right to terminate shall pertain solely by virtue of a voluntary reorganization for the purpose of solvent amalgamation or reconstruction.

10.04 TRANSFER OF TECHNOLOGY. (a) Upon termination of this Agreement due to Genentech's fundamental breach (including, without limitation, a failure to pay CTI Net Profits or royalties on Net Sales owed hereunder) or bankruptcy, the licenses

granted in Article V to Genentech shall terminate, and, Genentech shall grant to CTI a Territory-wide, exclusive license to develop, make, have made, use and sell Licensed Product in the Field of Use in the Territory (but for no other purpose) under the Genentech Patents and Knowhow solely or jointly owned by Genentech with CTI hereunder (including any improvements hereunder) with the right to sublicense and the right to reference or otherwise get the benefit of any necessary regulatory filings of Genentech or its sublicensees, and, upon the request of CTI, Genentech shall transfer to CTI any technology in its possession or control under the scope of such license and necessary for CTI to develop, make, have made, use or sell Licensed Product in the Field of Use in the Territory (but for no other purpose). CTI shall pay Genentech royalties in the amount of [*] of Net Sales of Licensed Product by CTI and its sublicensees and shall be responsible for all of Genentech's obligations hereunder. In addition to the royalties to be paid to Genentech, CTI shall be responsible for reimbursing Genentech for the payment of all royalties and other amounts contractually required to be paid by Genentech to third parties on account of such manufacture, sale or use of Licensed Product by CTI or its sublicensees.

(b) Upon termination of this Agreement due to CTI's fundamental breach (e.g., failure to supply Licensed Product as provided herein or in the Supply Agreement(s)) or bankruptcy, the licenses granted to CTI in Article V shall terminate, and, CTI shall grant to Genentech a Territory-wide, exclusive license to develop, make, have made, use and sell Licensed Product in the Field of Use in the Territory (but for no other purpose) under the CTI Patents and Knowhow, solely or jointly owned hereunder by CTI with Genentech (including any improvements hereunder) with the right to sublicense and the right to reference or otherwise get the benefit of any necessary regulatory filings of CTI or its sublicensees, and upon the request of Genentech, CTI shall transfer to Genentech any technology in its possession or control under the scope of such license and necessary for Genentech to develop, make, have made, use and sell Licensed Product in the Field of Use in the Territory (but for no other purpose). Genentech shall pay CTI royalties in the amount of [*] of Net Sales of Licensed Product in the Field of Use in the Territory by Genentech and its sublicensees and shall be responsible for all of CTI's obligations hereunder. In addition to the royalties to be paid to CTI, Genentech shall be responsible for reimbursing CTI for payment of all royalties and other amounts contractually required to be paid by CTI to third parties on account of such manufacture, sale or use of Licensed Product by Genentech or its sublicensees, but Genentech shall be entitled to

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offset against such royalty and other payments to CTI all of Genentech's out-of-pocket costs and expenses incurred in constructing facilities to manufacture Licensed Product in the Territory and obtaining approval of an establishment license application or equivalent regulatory approval of such manufacturing facilities. Genentech's right to offset its out-of-pocket costs of construction and approval shall be limited to those expenses reasonably incurred related to constructing a facility similar to the plant being used by CTI to produce Licensed Product hereunder. CTI shall have the option, in lieu of the foregoing offsets, of transferring to Genentech the ownership and/or control of the plant (with all liabilities incurred in connection with the construction, validation and approval of such plant) it is using at the time to supply Licensed Product hereunder. Genentech may reasonably refuse to accept such transfer, in which case Genentech's right to offset shall continue. Genentech may request that CTI transfer its technology to a third party solely for the manufacture of Licensed Product. CTI may reasonably withhold its consent to a transfer to a particular third party, but may not reject all possible reasonable third party candidates for such a transfer put forth by Genentech. During the period of such a transfer, CTI shall treat Genentech as its first priority customer for supply of Licensed Product. The Parties agree that the technology transfer will involve the need for CTI employees to train Genentech or its third party designee's employees. CTI will pay the salaries of its employees doing such training but will not be responsible for the payment of the salaries of Genentech or third party employees receiving training. Genentech will be responsible for all other obligations of CTI under this Agreement.

10.05 MUTUAL AGREEMENT. The Parties may terminate any development program or this Agreement by mutual agreement at any time.

10.06 SPECIAL TERMINATION RIGHTS.

(a) If Genentech elects not to continue the Development Program or the Clinical Development Program pursuant to Section 4.05 and the Parties do not agree to a new program hereunder within ninety (90) days, either Party may terminate this Agreement on ninety (90) days written notice to the other Party.

(b)(i) With respect to any Licensed Product, CTI may provide Genentech with a written notice at any time within thirty (30) days of Genentech's election under Section 4.05(b) to proceed with the Phase II Clinical Trial, of CTI's election not to proceed

further with the Clinical Development Program for such Licensed Product. After such notice, CTI shall have no further obligation to develop such Licensed Product or fund any costs hereunder for such Licensed Product, except as provided herein. Genentech shall have the option for a period of one hundred twenty (120) days after CTI's notice, [*] CTI shall continue to develop such Licensed [*] (and approval of the costs to be incurred) and the terms and conditions of this Agreement (including CTI's obligation to manufacture and supply, and Genentech's obligation to purchase, Licensed Product hereunder) shall remain in full force and effect, except that in lieu of the sharing of Net Profits on Net Sales of Licensed Products in the United States under Section 8.02 and the royalty on Net Sales of Licensed Products in the Territory outside the United States under Section 8.03, CTI shall be entitled to a royalty of only [*] of Net Sales of such Licensed Products by Genentech and its permitted sublicensees in the Territory, and its Fully Burdened Manufacturing Cost for such Licensed Product, if supplied by CTI hereunder. CTI shall be obligated to repay the full amount of the loan outstanding at a date to be agreed upon but in any event no later than [*] from each [*] to CTI thereunder. At CTI's election, such [*] shall be in cash and/or stock (pursuant to an agreement in the form of the Stock Purchase Agreement) valued at the 20 Day Average.

(ii) With respect to any Licensed Product, CTI may provide Genentech with a written notice at any time within thirty (30) days of Genentech's election under Section 4.05(c) to proceed with any Phase III Clinical Trial, of CTI's election not to proceed further with the Clinical Development Program for such Licensed Product. After such notice, CTI shall have no further obligation to develop such Licensed Product or fund any costs hereunder for such Licensed Product, except as provided herein. Genentech shall have the option for a period of one hundred twenty (120) days after CTI's notice, to [*]. If Genentech elects to make such loan, CTI shall continue to develop such Licensed [*] (and approval of the costs to be incurred) and the terms and conditions of this Agreement (including CTI's obligation to manufacture and supply, and Genentech's obligation to purchase, such Licensed Product hereunder) shall remain in full force and effect, except that in lieu of the sharing of Net Profits on

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Net Sales of Licensed Products in the United States under Section 8.02 and the royalty on Net Sales of Licensed Products in the Territory outside the United States under Section 8.03, CTI shall be entitled to a royalty of only [*] of Net Sales of Licensed Products by Genentech and its sublicensees in the United States, a royalty of only [*] of Net Sales of Licensed Products by Genentech and its sublicensees in the Territory outside the United States, and its Fully Burdened Manufacturing Cost for such Licensed Product, if supplied by CTI hereunder. CTI shall be obligated to [*] at a date to be agreed upon but in any event no later than five (5) years from each transfer of funds to CTI thereunder. At CTI's election, such [*] shall be in cash and/or stock (pursuant to an agreement in the form of the Stock Purchase Agreement) valued at the 20 Day Average.

10.07 EFFECT OF TERMINATION.

(a) Equity Purchases/Line of Credit. If this Agreement is terminated, (i) any equity purchase previously made by Genentech pursuant to Section 8.01 shall not be affected (subject to Sections 4.07(a) and (b) regarding overfunding), (ii) if such termination is not a result of Genentech's uncured default, CTI shall within one hundred eighty (180) days repay in full (in stock at a price equal to the 20 Day Average and/or in cash, at CTI's election) any outstanding loan balance (principal and interest) under the line of credit referred to in Section 4.07(d), and (iii) if such termination is a result of Genentech's uncurled default, CTI shall within one hundred eighty (180) days repay (in stock at a price equal to the 20 Day Average and/or in cash, at CTI's election) in [*] under the line of credit referred to in Section 4.07(d).

(b) Materials/Knowhow. Except as otherwise provided herein, upon termination of this Agreement, each Party shall destroy (and provide a certificate of destruction) or return to the other Party, all Knowhow provided by the other Party including all biological materials and proprietary information provided by the other Party.

(c) Improvements. On any termination of this Agreement, Genentech shall have a perpetual, fully paid up, exclusive right and license in the Territory to improvements to the Genentech Knowhow or Genentech Patent Rights solely developed or invented and solely owned by CTI under Section 7.01, and CTI shall have a perpetual, fully

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paid up, exclusive right and license in the Territory to improvements to the CTI Knowhow or CTI Patent Rights solely developed or invented and solely owned by Genentech under Section 7.01, and each Party shall promptly transfer any such improvements that are in its possession or control to the other Party.

(d) Sublicenses. If this Agreement is terminated by one Party upon the breach of the other Party (the "Breaching Party"), all permitted sublicenses shall continue in force, provided that in the case of the Breaching Party's sublicensees, such sublicensee(s) cure the breach of the Breaching Party and agree to be responsible for the obligations of the Breaching Party.

(e) Access to Regulatory Documents. Except as otherwise provided herein, upon termination of this Agreement neither Party shall have any right to cross-reference or otherwise obtain the benefit of any regulatory filings made by the other Party.

10.08 SURVIVAL OF CERTAIN PROVISIONS. The provisions of Article VIII (to the extent any payment obligations have accrued prior to termination), IX and XI and Sections 10.04, 10.07 and 10.09 shall survive any termination or expiration of this Agreement.

10.09 ACCRUED RIGHTS, SURVIVING OBLIGATIONS. Termination, relinquishment or expiration of this Agreement for any reason shall be without prejudice to any rights which shall have accrued to the benefit of either Party prior to such termination, or expiration. Such termination, relinquishment or expiration shall not relieve either Party from obligations which are expressly indicated to survive termination or expiration of this Agreement.

ARTICLE XI

MISCELLANEOUS PROVISIONS

11.01 NO PARTNERSHIP. Nothing in this Agreement is intended or shall be deemed to constitute a partnership, agency, employer, employee or joint venture relationship between the Parties. No Party shall incur any debts or make any

commitments for the other.

11.02 ASSIGNMENTS. Except as otherwise provided herein, neither this Agreement nor any interest hereunder shall be assignable by any Party or by operation of law or otherwise without the prior written consent of the other; provided, however, that either Party may assign its rights and delegate its obligations under this Agreement, without the consent of the other Party, to any direct or indirect wholly-owned subsidiary or to any successor by merger or sale of substantially all of its assets to which this Agreement relates (e.g., one or more Factors) in a manner such that the assignor shall remain liable and responsible for the performance and observance of all its duties and obligations hereunder, or if the assignor disappears because of such transaction, the assignee must agree to abide by the terms and conditions of this Agreement. This Agreement shall be binding upon the successors and permitted assigns of the Parties and the name of a Party appearing herein shall be deemed to include the names of such Party's successor's and permitted assigns to the extent necessary to carry out the intent of this Agreement. Any assignment not in accordance with this Section 11.02 shall be void.

11.03 REPRESENTATIONS AND WARRANTIES. Each Party warrants and represents to the other Party that, to the best of the representing and warranting Party's knowledge: (i) it is free to enter into this Agreement; (ii) so doing will not violate any other agreement to which it is party; and (iii) it currently has the right to grant the licenses granted hereunder. Neither Party makes any representation or warranty that any patent applications licensed hereunder will issue as patents or that any patent licensed hereunder is valid or enforceable or that the exercise of the licenses granted hereunder will not infringe the rights of any third party.

11.04. FORCE MAJEURE. Neither Party shall be liable to the other for loss or damages or shall have any right to terminate this Agreement for any default or delay (including, without limitation, an inability to supply Licensed Product) attributable to any act of God, earthquake, flood, fire, explosion, strike, lockout, labor dispute, casualty or accident, war, revolution, civil commotion, act of public enemies, blockage or embargo, injunction, law, order, proclamation, regulation, ordinance, demand or requirement of any government or subdivision, authority (including, without limitation, drug regulatory authorities) or representative of any such government, or any other cause beyond the reasonable control of such Party, if the Party affected shall give

prompt notice of any such cause to the other Parties. The Party given such notice shall thereupon be excused from such of its obligations hereunder as it is so disabled and for 30 days thereafter. Notwithstanding the foregoing, nothing in this Section 11.04 shall excuse or suspend the obligation to make any payment due hereunder in the manner and at the time provided.

11.05 NO TRADEMARK RIGHTS. No right, express or implied, is granted by this Agreement to use in any manner any trade name or trademark of CTI or Genentech in connection with the performance of this Agreement or the exploitation of any license granted hereunder.

11.06 PUBLIC ANNOUNCEMENTS. The Parties shall consult and obtain mutual consent before making any public announcement concerning this Agreement or the subject matter hereof, except as required by law or applicable rules or regulations. Copies of press releases or similar written communications containing a Party's name shall be provided to that Party prior to release.

11.07 ENTIRE AGREEMENT OF THE PARTIES; AMENDMENT. This Agreement, the Neurturin MTA, and the Stock Purchase Agreement(s) to be entered into as provided herein constitute and contain the entire understanding and agreement of the Parties with respect to the subject matter hereof and cancel and supersede any and all prior negotiations, correspondence, understandings and agreements, whether verbal or written, between the Parties respecting the subject matter hereof, including the NGF Agreement except for those sections of the NGF Agreement which are intended to survive expiration or termination, all of which remain in full force and effect. No waiver, modification or amendment of any provision of this Agreement shall be valid or effective unless made in writing and signed by a duly authorized officer of each of the Parties.

11.08 SEVERABILITY. In the event any one or more of the provisions of this Agreement should for any reason be held by any court or authority having jurisdiction over this Agreement or either of the Parties to be invalid, illegal or unenforceable, such provision or provisions shall be validly reformed by addition or deletion of wording as appropriate to avoid such result and as nearly as possible approximate the intent of the Parties and, if unreformable, shall be divisible and deleted in such jurisdiction; elsewhere, this Agreement shall not be affected.

11.09 CAPTIONS. The captions to this Agreement are for convenience only, and are to be of no force or effect in construing or interpreting any of the provisions of this Agreement.

11.10 NOTICE AND DELIVERY. Any notice, requests, delivery, approval or consent required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been sufficiently given if delivered in person, transmitted by telegraph or telecopier (with confirmed answer-back) or sent by registered air mail letter to the Party (which notice shall be considered effective five days after it is sent) to whom it is directed at its address shown below or such other address as such party shall have last given by notice to the other Party.

IF TO CTI, ADDRESSED TO:

CytoTherapeutics, Inc.
Two Richmond Square
Providence, RI 02906
Attention: President
Telephone: (401) 272-3310
Telecopier: (401) 272-3485
with a copy addressed to the General Counsel

IF TO GENENTECH, ADDRESSED TO:

Genentech, Inc.
460 Point San Bruno Boulevard
South San Francisco, CA 94080
Attention: Corporate Secretary
Telephone: (415) 225-1000
Telecopier: (415) 952-9881

11.11 LIMITATION OF LIABILITY. Neither Party shall be liable to the other for indirect, incidental or consequential damages arising out of any of the terms or conditions of this Agreement or with respect to their performance or lack thereof.

11.12 GENENTECH INDEMNIFICATION. Genentech shall indemnify, defend and hold harmless CTI and its officers, directors, Affiliates, employees and agents from and against all third party costs, claims, suits, expenses (including reasonable attorneys' fees) and damages arising out of or resulting from any willful or negligent act or omission by Genentech related to the subject matter of this Agreement or the use by or administration to any person of any Licensed Product that arises out of sales of Licensed Product by Genentech (except where such cost, claim, suit, expense or damage arose or resulted from any negligent act or omission by CTI or its sublicensees or from any defect in the manufacture of Licensed Product by CTI or its sublicensees which was not discovered by Genentech), provided that CTI gives reasonable notice to Genentech of any such claim or action, tenders the defense of such claim or action to Genentech and assists Genentech at Genentech's expense in defending such claim or action and does not compromise or settle such claim or action without Genentech's prior written consent.

11.13 CTI INDEMNIFICATION. CTI shall indemnify, defend and hold harmless Genentech and its officers, directors, Affiliates, employees and agents from and against all third party costs, claims, suits, expenses (including reasonable attorney's fees) and damages arising out of or resulting from any willful or negligent act or omission by CTI relating to the subject matter of this Agreement (except where such cost, claim, suit, expense or damage arose or resulted from any negligent act or omission by Genentech or its sublicensees) or from any defect in the manufacture of Licensed Product by CTI or its sublicensees which was not discovered by Genentech, provided that Genentech gives reasonable notice to CTI of any such claims or action, tenders the defense of such claim or action to CTI and assists Genentech at Genentech's expense in defending such claim or action and does not compromise or settle such claim or action without Genentech's prior written consent.

11.14 LIABILITY INSURANCE. Each Party shall maintain (i) prior to the first clinical trial in humans of any Licensed Product conducted by or on behalf of a Party comprehensive general and products liability and completed operations insurance with at least a Best-rated A-XIV insurance company covering that Party's activities related to this Agreement in an amount of not less than $3,000,000 per occurrence and annual aggregate and (ii) during the remaining term of this Agreement either (1) net worth of no less than $100,000,000 or (2) comprehensive general and products

liability and completed operations insurance covering that Party's activities related to this Agreement in an amount of not less than $3,000,000 per occurrence and annual aggregate. Upon request, each Party shall provide to the other satisfactory evidence of that Party's compliance with this provision. The obligations under this Section 11.14 shall terminate upon the expiration of the statute of limitations applicable to any liability covered by the above-referenced insurance.

11.15 NO AGENCY. Nothing herein shall be deemed to constitute either Party as the agent or representative of the other Party, or both Parties as joint venturers or partners for any purpose. Each Party shall be an independent contractor, not an employee or partner of the other. Neither Party shall be responsible for the acts or omissions of the other Party, and neither Party will have authority to speak for, represent or obligate the other Party in any way without prior written authority from the other Party.

11.16 COUNTERPARTS. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

11.17 JOINT DRAFTING. This Agreement was jointly drafted and prepared by both Parties hereto and no presumption in favor of or against either Party hereto shall be deemed to exist with respect to the interpretation of any provision to this Agreement.

11.18 GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the laws of the State of California as applied to contracts entered into and wholly performed within the State of California by California residents.

11.19 MEDIATION. The Parties agree that the prompt resolution of disputes that may arise hereunder is of critical importance. In the case of a dispute hereunder which the Parties fail to resolve, including, if applicable, after referral to a "member of senior management" pursuant to Sections 2.03 or 8.08, either side may demand mediation by written notice to the other. Within 10 business days of the giving of such notice, the Parties shall agree on an unaffiliated mediator, failing agreement within such 10 days, the Party requesting mediation shall select the mediator from a list of mediators provided by both Parties. Within 30 days of the choice of the mediator, each Party shall

submit to the other and the mediator, a brief of 20 pages or less outlining its position. Within five business days of the exchange of briefs, the mediation shall be held at a time and place to be selected by the Party that did not request the mediation. In no event shall the duration of the mediation be greater than one day unless otherwise agreed by the Parties. Each Party shall bear all of its own expenses incurred in connection with the mediation and the Parties shall share equally the fees and expenses of the mediator.

11.20 ARBITRATION. In the event that the parties are unable to resolve a dispute within 30 days after the commencement of mediation efforts under Section 11.19, either Party may submit the matter to nonbinding arbitration in accordance with the procedures set forth in this Section 11.20. If a party intends to commence arbitration to resolve a dispute, such Party shall provide written notice to the other Party of such intention, and shall designate one arbitrator. Within 10 days of receipt of such notice, the other Party shall designate in writing a second arbitrator. The two arbitrators so designated shall, within 10 days thereafter, designate a third arbitrator. The arbitrators so designated shall not be employees, consultants, officers, directors or shareholders of or otherwise associated with either Party or an Affiliate of either Party. The arbitration shall be conducted in accordance with the rules of, and under the auspices of, the International Chamber of Commerce and the location of the arbitration shall be a location in the United States selected by the Party that did not submit the matter to arbitration hereunder. Any such procedure shall be conducted as a "baseball" arbitration.

Within 15 days after the designation of the third arbitrator, the arbitrators and the Parties shall meet at which time each Party shall be required to set forth in writing the issues which need to be resolved and a proposed ruling on each such issue.

The arbitrators shall set a date for a hearing, which shall be no later than 30 days after the submission of written proposals from each Party, to discuss each of the issues identified by the Parties. Each Party shall have the right to be represented by counsel. The arbitrators shall have sole discretion with regard to the admissibility of any evidence.

The arbitrators shall use their best efforts to rule on each disputed issue within 30 days after the completion of the hearings described above. The arbitrators' ruling

shall be, in the absence of fraud or manifest error, binding and conclusive upon both Parties and may be enforced in a court of competent jurisdiction. The arbitrators may not award punitive or exemplary damages.

The arbitrators shall be paid a reasonable fee plus expenses, which fees and expenses shall be paid as designated by the arbitrators or if the arbitrators do not so designate such costs shall be shared equally by the Parties.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized officers as of the day and year set forth below, each

copy of which shall for all purposes be deemed to be an original.

GENENTECH, INC.	CYTOTHERAPEUTICS, INC.
By: /s/ Illegible Signature	By: /s/ Illegible Signature
Title: Executive V.P.	Title: CEO
Date: 11/21/96	Date: 11/26/96

EXHIBIT ___

AGREEMENT FOR CONSULTING SERVICES

This Agreement is made by and between CytoTherapeutics, Inc. (the "Company") and Peter Simon (the "Consultant") as of December 1, 1996.

1. SERVICES. The Consultant shall provide to the Company consulting services in the field referred to in Exhibit A/Item 1 or as otherwise agreed by the parties in accordance with the terms and conditions contained in this Agreement.

2. TERM. The services provided by the Consultant to the Company shall be performed for the term set forth in Exhibit A/Item 2. The Consultant shall coordinate his work efforts and report his progress regularly to the individual set forth in Exhibit A/Item 3.

3. PAYMENT FOR SERVICE RENDERED. For providing the consulting services as referred herein, the Company shall compensate the Consultant as set forth in Exhibit A/Item 4.

4. CONSULTANT'S WARRANTIES. The Consultant hereby warrants that no other person has rights to his services in the specific areas described herein and that the Consultant is in no way compromising any rights or trust relationships between any other party and the Consultant, or creating a conflict of interest or any possibility thereof for the Consultant or for the Company. The Consultant further warrants that he is entitled to enter into this Agreement and make the assignments made herein.

5. NATURE OF RELATIONSHIP. The Consultant is an independent contractor and will not act as an agent nor shall he be deemed an employee of the Company for the purposes of any employee benefit programs, income tax withholding, FICA taxes, unemployment benefits or otherwise. The Consultant shall not enter into any agreement or incur any obligations on the Company's behalf, or commit the Company in any manner without the Company's prior written consent.

6. INVENTIONS, PATENTS AND TECHNOLOGY. The Consultant shall promptly and fully disclose to the Company any and all inventions, improvements, discoveries, developments, original works of authorship, trade secrets, or other intellectual property ("Proprietary Information") conceived, developed or reduced to practice by the Consultant during the performance of the consulting services performed for the Company hereunder. The Consultant shall treat

all Proprietary Information as the confidential information of the Company. The Consultant agrees and does hereby assign to the Company and its successors and assigns, without further consideration, the entire right, title and interest in and to each of the Proprietary Information whether or not patentable or copyrightable. The Consultant further agrees to execute all applications for patents and/or copyrights, domestic or foreign, assignments and other papers necessary to secure and enforce rights relating to the Proprietary Information. The parties acknowledge that all original works of authorship that are made by the Consultant within the scope of his consulting services and that are protectable by copyright are "works made for hire," as that term is defined in the United States Copyright Act (17USCA Section 101).

7. CONFIDENTIALITY. The Consultant agrees that he shall not use (except for the Company's benefit) or divulge to anyone--either during the term of this Agreement or thereafter--any of the Company's trade secrets, the Proprietary Information or other proprietary data, or information of any kind whatsoever acquired by the Consultant in carrying out the terms of this Agreement, and will turn over to the Company, or make such disposition thereof as - may be directed or approved by the Company, any notebook, data, information or other material acquired or compiled by the Consultant in carrying out the terms of this Agreement.

8. TERMINATION. Either party may terminate this Agreement in the case of a material default hereunder by the other party which remains uncured after 30 days written notice. In addition, the Company shall have the right to terminate this Agreement by giving written notice 30 days prior to the date of such termination. Any termination shall be effective in the manner and upon the date specified in said notice and shall be without prejudice to any claims that the Company may have against the Consultant. The Company's sole obligation in the event of such termination shall be to reimburse the Consultant for services actually performed by the Consultant up to the effective date of termination. Termination shall not relieve the Consultant of his continuing obligations under this Agreement, particularly the requirements of Items 6 and 7 above, which shall survive termination or expiration of this Agreement.

9. CONSULTANT'S COVENANTS. Consultant agrees that he will notify the Company of any potential competitor of the Company for whom he works; if the Company determines that such a competitor creates an irreconcilable conflict of interest, it may terminate the Agreement immediately.

10. MISCELLANEOUS.

a. No failure on the part of either party to exercise, and no delay in exercising, any right or remedy hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right or remedy hereunder preclude any other or further exercise thereof or the exercise of any other right or remedy granted hereby, or by any related document or by law.

b. This Agreement shall be deemed to be a contract made under the law of the State of Texas and for all purposes it, plus any related or supplemental documents and notices, shall be construed in accordance with and governed by the law of such state.

c. This Agreement may not be and shall not be deemed or construed to have been modified, amended, rescinded, canceled or waived, in whole or in part, except by written instruments signed by the parties hereto.

d. This Agreement, including the exhibits attached hereto and made a part hereof, constitutes and expresses the entire Agreement and understanding between the parties. All previous discussions, promises, representations and understandings between the parties relative to this Agreement, if any, have been merged into this document.

e. The Consultant may not subcontract any part or all of the services to be provided without the prior written consent of the Company.

In witness whereof, the parties have executed this Agreement as of the date first set forth above.

CytoTherapeutics, Inc.	Peter Simon
By /s/ Seth Rudnick ---	/s/ Peter Simon --- Consultant Signature
Title: ---	
	--- Social Security Number

EXHIBIT A

1. Description of consulting services: Review and analysis of corporate partnering activities and other activities as directed by the Board of Directors.

2. Duration of Agreement: This Agreement for Consulting Services begins on December 1, 1996 and will terminate on November 30, 1997.

3. The Consultant shall report to: Seth Rudnick, M.D.

4. Payment for services: The Company will pay the Consultant two thousand dollars (US$ 2000) per full day of consulting performed at the request of the Company. Such payments will be made within thirty (30) days of submission by the Consultant of signed reimbursement instructions. The total payments over the course of one year hereunder shall not exceed twenty thousand dollars (US$ 20,000).

   The Consultant will also be reimbursed for travel expenses that are directly related to the consulting; such expenses will be reimbursed within 30 days of the receipt of a signed request detailing expenses (with receipts).

TERM LOAN AGREEMENT

dated as of October 22, 1996

between

CYTOTHERAPEUTICS, INC.

and

THE FIRST NATIONAL BANK OF BOSTON

TERM LOAN AGREEMENT

This TERM LOAN AGREEMENT (this "Agreement") is made as of October 22, 1996, by and between CYTOTHERAPEUTICS, INC. (the "Borrower"), a Delaware corporation having its principal place of business at Two Richmond Square, Providence, Rhode Island 02906, and THE FIRST NATIONAL BANK OF BOSTON (the "Bank"), a national banking association with its head office at 100 Federal Street, Boston, Massachusetts.

1. DEFINITIONS:

Certain capitalized terms are defined below:

ADVANCE. See [section]2.

AGREEMENT: See preamble, which term shall include this Agreement and the Schedules and Exhibits hereto, all as amended and in effect from time to time.

AUTHORIZED INVESTMENT VEHICLES: Those investments permitted by the Policy.

BANK: See preamble.

BASE RATE: The higher of (a) the annual rate of interest announced from time to time by the Bank at its head office as the Bank's "base rate" or (b) one-half of one percent (1/2%) above the Federal Funds Effective Rate.

BORROWER: See preamble.

BUSINESS DAY: Any day on which banks in Boston, Massachusetts and Providence, Rhode Island, are open for business generally.

CAPITALIZED LEASES: Leases under which the Borrower is the Lessee or obligor, the discounted, future rental payment obligations under which are required to be capitalized on the balance sheet of the Borrower in accordance with GAAP.

CASH COLLATERAL ACCOUNT. That certain interest bearing account with the Bank in the name "CytoTherapeutics, Inc. Cash Collateral Account".

CASH COLLATERAL AGREEMENT. That certain cash collateral agreement of even date herewith between the Borrower and the Bank, pursuant to which the Borrower has granted to the Bank a first priority security interest in the Cash Collateral Account and the amounts from time to time deposited therein, as the same may be amended, restated, supplemented or modified from time to time.

CASH EQUIVALENTS. (a) Negotiable certificates of deposit and bankers' acceptances, maturing in one hundred eighty (180) days or less from the date of issue, or demand deposit or money market accounts, with any commercial bank or trust company which is organized under the laws of the United States or of any state thereof and which has, or which is owned by a bank holding company which has, total assets in excess of $1,000,000,000; (b) any securities (i) which are commonly known as "commercial paper", (ii) which are due and payable within two hundred seventy (270) days from the date of issue, (iii) which have been issued by any corporation organized under the laws of the United States or of any state thereof or issued by a foreign corporation if such securities are denominated in United States dollars, and (iv) the ratings for which, at the time of the acquisition thereof by the Borrower are not less than "P-1" if rated by Moody's Investors Services, Inc., and not less than "A-1" if rated by Standard and Poor's Corporation; (c) any marketable direct or unconditionally guaranteed obligations of the United States of America or any agency thereof which mature within one (1) year from the date of the acquisition thereof and (d) Authorized Investment Vehicles.

CHARTER DOCUMENTS: In respect of any entity, the certificate or articles of incorporation or organization and the by-laws of such entity, or other constitutive documents of such entity.

COLLATERAL: All of the property, rights and assets of the Borrower that are or are intended to be subject to the security interest created by the Security Documents.

CONSENT: In respect of any person or entity, any permit, license or exemption from, approval, consent of, registration or filing with any local, state or federal governmental or regulatory agency or authority, required under applicable law.

DEFAULT: An event or act which with the giving of notice and/or the lapse of time, would become an Event of Default.

DRAWDOWN DATE: See [section]2.

DISBURSEMENT PERIOD. See [section]2.

ENVIRONMENTAL LAWS: All laws pertaining to environmental matters, including without limitation, the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act of 1980, the Superfund Amendments and Reauthorization Act of 1986, the Federal Clean Water Act, the Federal Clean Air Act, the Toxic Substances Control Act, in each case as amended, and all rules, regulations, judgments, decrees, orders and licenses arising under all such laws.

ERISA: The Employee Retirement Income Security Act of 1974, as amended, and all rules, regulations, judgments, decrees, and orders arising thereunder.

EVENT OF DEFAULT: Any of the events listed in [section]8 hereof.

FEDERAL FUNDS EFFECTIVE RATE: For any day, the rate per annum equal to the weighted average of the rates on overnight federal funds transactions with members of the Federal Reserve System arranged by federal funds brokers, as published for such day (or, if such day is not a Business Day, for the next preceding Business Day) by the Federal Reserve Bank of New York, or, if such rate is not so published for any day that is a Business Day, the average of the quotations for such day on such transactions received by the Bank from three funds brokers of recognized standing selected by the Bank.

FINANCIALS: In respect of any period, the balance sheet of any person or entity as at the end of such period, and the related statement of operations, statement of cash flow and statement of stockholders equity for such period, each setting forth in comparative form the figures for the previous comparable fiscal period, all in reasonable detail and prepared in accordance with GAAP.

FLEET CREDIT AGREEMENT: The Loan Agreement dated as of May 15, 1996 between the Borrower and Fleet National Bank.

GAAP: Generally accepted accounting principles consistent with those adopted by the Financial Accounting Standards Board and its predecessor, (a) generally, as in effect from time to time, and (b) for purposes of determining compliance by the Borrower with its financial covenants set forth herein, as in effect for the fiscal year therein reported in the most recent Financials submitted to the Bank prior to execution of this Agreement.

HAZARDOUS MATERIALS: Any hazardous waste, as defined by 42 U.S.C. [section]6903(5), any hazardous substances as defined by 42 U.S.C. [section]9601(14), any pollutant or contaminant as defined by 42 U.S.C. [section]9601(33) and any toxic substances, oil or hazardous materials or other chemicals or substances regulated by any Environmental Laws.

INDEBTEDNESS: In respect of any person or entity, all obligations, contingent and otherwise, that in accordance with GAAP should be classified upon the obligor's balance sheet as liabilities, or to which reference should be made by footnotes thereto, including in any event and whether or not so classified: (a) all debt and similar monetary obligations, whether direct or indirect; (b) all liabilities secured by any mortgage, pledge, security interest, lien, charge or other encumbrance existing on property owned or acquired subject thereto, whether or not the liability secured thereby shall have been assumed; and (c) all guarantees, endorsements and other contingent obligations whether direct or indirect in respect of indebtedness of others, including any obligation to supply funds to or in any manner to invest in, directly or indirectly, the debtor, to purchase indebtedness, or to assure the owner of indebtedness against loss, through an agreement to purchase goods, supplies, or services for the purpose of enabling the debtor to make payment of the indebtedness held by such owner or otherwise, and the obligations to reimburse the issuer in respect of any letters of credit.

LIENS: Any encumbrance, mortgage, pledge, hypothecation, charge, restriction or other security interest of any kind securing any obligation of any entity or person.

LOAN: The term loan made or to be made to the Borrower pursuant to [section]2 hereof.

LOAN DOCUMENTS: This Agreement, the Note, and the Security Documents, in each case as from time to time amended, restated, modified or supplemented.

MARGIN: One-half of one percent (1/2%) per annum.

MATERIALLY ADVERSE EFFECT: Any materially adverse effect on the financial condition or business operations of the Borrower or material impairment of the ability of the Borrower to perform its obligations hereunder or under any of the other Loan Documents.

MATURITY DATE: The earliest to occur of (a) October 22, 2001 and (b) such earlier date on which the Loan may become due and payable pursuant to the terms hereof.

MORTGAGE: The mortgage dated as of the date hereof from the Borrower to the Bank with respect to the fee interest of the Borrower in the Property and in form and substance satisfactory to the Bank.

MORTGAGED PROPERTY: The Property.

NOTE. See [section]2.1.

OBLIGATIONS: All indebtedness, obligations and liabilities of the Borrower to the Bank arising or incurred under this Agreement or any other Loan Document or in respect of the Loan or the Note or other instruments at any time evidencing any thereof, existing on the date of this Agreement or arising thereafter, direct or indirect, joint or several, absolute or contingent, matured or unmatured, liquidated or unliquidated, secured or unsecured, arising by contract, operation of law or otherwise.

OFFICE BUILDING: The building which is being constructed on the Property.

ORIGINAL TERM LOAN: The term loan made by the Bank to the Borrower in the original principal amount of $1,500,000 pursuant to the Original Term Loan Agreement and the Original Term Loan Documents.

ORIGINAL TERM LOAN AGREEMENT: The Term Loan Agreement dated as of September 30, 1994 between the Borrower and the Bank, as the same may be amended, restated, modified or supplemented from time to time, pursuant to which the Bank made the Original Term Loan to the Borrower.

ORIGINAL TERM LOAN DOCUMENTS: The "Loan Documents" as such term is defined in the Original Term Loan Agreement.

PERMITTED LIENS: See [section]7.2(b).

POLICY: The Borrower's Investment Policy, a copy of which is attached hereto as Exhibit A.

PROJECT COSTS: The aggregate cost of acquiring the Property, developing and constructing the Office Building to be located thereon and completing the contemplated improvements and renovations thereon.

PROPERTY: The real property located at 701 Washington Highway, Lincoln, Rhode Island, which real property is subject to the Mortgage.

REQUIREMENT OF LAW: In respect of any person or entity, any law, treaty, rule, regulation or determination of an arbitrator, court, or other governmental authority, in each case applicable to or binding upon such person or entity or affecting any of its property.

SECURITY DOCUMENTS: Collectively, the Cash Collateral Agreement and the Mortgage, and all instruments and documents required to be delivered pursuant thereto.

SURVEY: In relation to the Mortgaged Property, an instrument survey of such Mortgaged Property dated as of a date subsequent to August 1, 1996, which shall show the location of all buildings, structures, easements and utility lines on such Mortgaged Property, shall be sufficient to remove the survey exception from the Title Policy, shall show that all buildings and structures are within the lot lines of such Mortgaged Property, shall not show any encroachments by others, shall show the zoning district or districts in which such Mortgaged Property is located in a flood hazard district as established by the Federal Emergency Management Agency or any successor agency or is located in any flood plain, flood hazard or wetland protection district established under federal, state or local law.

SURVEYOR CERTIFICATE: In relation to the Mortgaged Property for which a Survey has been conducted, a certificate executed by the surveyor who prepared such Survey dated as of a recent date and containing such information relating to such Mortgaged Property as the Bank or the Title Insurance Company may require, such certificate to be satisfactory to the Bank in form and substance.

TANGIBLE NET WORTH: The excess of (a) all assets of the Borrower determined in accordance with GAAP, over (b) all liabilities of the Borrower determined in accordance with GAAP, minus (c) the sum of (i) the book value all intangibles determined in accordance with GAAP, including good will and intellectual property, and (ii) any write-up in the book value of assets since the most recent audited Financials in existence on the date hereof.

TITLE INSURANCE COMPANY: Commonwealth Title Insurance Co., Inc.

TITLE POLICY: In relation to the Mortgaged Property, an ALTA standard form title insurance policy issued by the Title Insurance Company (with such reinsurance or co-insurance as the Bank may require, any such reinsurance to be with direct access endorsements) in such amount as may be

determined by the Bank insuring the priority of the Mortgage or such Mortgaged Property and that the Borrower holds marketable fee simple title to such Mortgaged Property, subject only to the encumbrances permitted by such Mortgage and which shall not contain exceptions for mechanics liens, persons in occupancy or matters which would be shown by a survey (except as may be permitted by such Mortgage), shall not insure over any matter except to the extent that any such affirmative insurance is acceptable to the Bank in its sole discretion, and shall contain such endorsements and affirmative insurance as the Bank in its discretion may require, including but not limited to (a) comprehensive endorsement and (b) variable rate of interest endorsement.

TOTAL LIABILITIES: All liabilities of the Borrower that in accordance with GAAP are properly classified as liabilities.

UNENCUMBERED CASH: The sum of (a) the Borrower's cash held in demand deposit accounts or interest bearing accounts at any financial institution, plus (b) the Borrower's Cash Equivalents.

2. TERM LOAN CREDIT FACILITY.

2.1. THE TERM LOAN.

(a) Subject to the terms and conditions of this Agreement (including, but not limited to those requirements set forth in paragraph (b) below), the Bank agrees during the Disbursement Period (as hereinafter defined), upon the request of the Borrower, to make up to a maximum of five (5) Advances (as hereinafter defined) of the Loan to the Borrower. The aggregate amount of all Advances of the Loan shall be in the maximum principal amount of $5,500,000 or so much thereof as shall have been disbursed during the Disbursement Period. The Loan shall be evidenced by a promissory note of the Borrower, in form and substance satisfactory to the Bank (the "Note"), dated as of the date hereof and payable to the order of the Bank.

(b) Advances of principal may be requested by the Borrower during the period running from the date of this Agreement through and including October 31, 1997 (the "Disbursement Period") on the following terms and conditions (each portion of the Loan so advanced being an "Advance"), PROVIDED, HOWEVER, the Borrower shall not make more than five (5) separate requests for Advances during the Disbursement Period. The Borrower shall notify the Bank in writing not later than 11:00 a.m. (Boston time) on the day prior to the date on which the Advance is to be made (both of which days must be Business Days (the "Drawdown Date") of the proposed Drawdown Date of such Advance and of the principal amount of the Advance. Each such request for an Advance shall be irrevocable and binding on the Borrower and shall obligate the Borrower to accept the Advance requested from the Bank on the proposed Drawdown Date. Each request for an Advance shall be in a minimum amount of $750,000 and shall be accompanied by a written certification from the Borrower that the proceeds of such Advance are being used solely to finance the Project Costs (which Project Costs to date shall not be less than the amount of the Advance requested). Subject to the foregoing, and subject to the conditions set forth in [section]6, so long as no Default or Event of Default shall have occurred and is continuing and all the applicable conditions set forth in this

Agreement have been met, including, but not limited to, the Borrower taking all action necessary to perfect the Bank's security interest in the Property and the Office Building, the Bank shall advance the amount requested to a bank account designated by the Borrower in writing in immediately available funds not later than the close of business on such Drawdown Date.

2.2. INTEREST.

So long as no Event of Default is continuing, the Borrower shall pay interest on the principal amount of the Loan (or that portion which has been advanced to the Borrower pursuant to [section]2.1) at a rate per annum which is equal to the sum of (a) the Base Rate, and (b) the Margin, such interest to be payable in arrears on the first day of each calendar month for the immediately preceding calendar month, commencing with the first such day following the date hereof. While an Event of Default with respect to [section]8(a) or (b) or [section]7.3 is continuing, amounts payable under any of the Loan Documents shall bear interest (compounded monthly and payable on demand in respect of overdue amounts) at a rate per annum which is equal to the sum of (a) the Base Rate, and (b) two percent (2%) above the rate of interest otherwise applicable to the Loan until such amount is paid in full or (as the case may be) such Event of Default has been cured or waived in writing by the Bank (after as well as before judgment).

2.3. REPAYMENTS AND PREPAYMENTS.

The Borrower hereby promises to pay to the Bank the principal amount of the Loan in sixteen (16) consecutive equal quarterly installments of 1/40th of the total amount of the Loan, with each such installment due on the last Business Day of each calendar quarter, commencing September 30, 1997, and with a final payment of the full amount of the remaining balance of the Loan on the Maturity Date. The Borrower may elect to prepay the outstanding principal of all or any part of the Loan, without premium or penalty, in a minimum amount of $100,000 or an integral multiple thereof, upon written notice to the Bank given by 10:00 a.m. Boston time on the date of such prepayment, of the amount to be prepaid. Each repayment or prepayment of principal of the Loan shall be accompanied by payment of the unpaid interest accrued to such date on the principal being repaid or prepaid and shall be applied against the scheduled installments of principal due on the Loan in the inverse order of maturity. No amount repaid with respect to the Loan may be reborrowed.

2.4. CASH COLLATERAL ACCOUNT.

(a) Prior to the date hereof, the Borrower has established with the Bank the Cash Collateral Account. Pursuant to the terms of the Cash Collateral Agreement, the Borrower is granting to the Lender a first priority security interest in the Cash Collateral Account and the amounts from time to time deposited therein.

(b) In the event that the Borrower's Unencumbered Cash at any time is equal to or less than $25,000,000 but greater than $20,000,000, the Borrower shall, on the date such amount equals or falls below $25,000,000, cause to be deposited in the Cash Collateral Account as cash collateral

for the Obligations an amount which is necessary to make the total amount in the Cash Collateral Account equal to or greater than twenty-five percent (25%) of the Obligations.

(c) In the event that the Borrower's Unencumbered Cash at any time is equal to or less than $20,000,000 but greater than $15,000,000, the Borrower shall, on the date such amount equals or falls below $20,000,000, cause to be deposited in the Cash Collateral Account as cash collateral for the Obligations an amount which is necessary to make the total amount in the Cash Collateral Account equal to or greater than fifty percent (50%) of the amount of the Obligations.

(d) If at any time the amount of the Borrower's Unencumbered Cash is equal to or less than $15,000,000, the Borrower shall on the date such amount equals or falls below $15,000,000 cause to be deposited in the Cash Collateral Account as cash collateral for the Obligations an amount which is necessary to make the total amount in the Cash Collateral Account equal to or greater than one hundred percent (100%) of the amount of the Obligations.

(e) Notwithstanding anything to the contrary contained herein, in the event that the Borrower is required to deposit in the Cash Collateral Account an amount which is necessary to make the total amount in the Cash Collateral Account (i) equal to or greater than one hundred percent (100%) of the amount of the Obligations, and does in fact make such a deposit, and subsequent to making such deposit demonstrates to the satisfaction of the Bank that the amount of the Borrower's Unencumbered Cash is greater than $30,000,000 and has been greater than $30,000,000 for thirty (30) consecutive days, the Bank shall release all amounts in the Cash Collateral Account, PROVIDED, HOWEVER, the Borrower shall remain subject to the provisions of this [section]2; and (ii) equal to or greater than twenty five percent of the amount of the Obligations but less than 100% of the amount of the Obligations, and does in fact make such a deposit or deposits, and subsequent thereto demonstrates to the satisfaction of the Bank that the amount of the Borrower's Unencumbered Cash is greater than $40,000,000 and has been greater than $40,000,000 for thirty (30) consecutive days, the Bank hall release all amounts in the Cash Collateral Account, PROVIDED, HOWEVER, the Borrower shall remain subject to the provisions of this [section]2.

3. CHANGES IN CIRCUMSTANCES.

If after the date hereof the Bank determines that (a) the adoption of or any change in any banking law, rule, regulation or guideline or the administration thereof (whether or not having the force of law), or (b) compliance by the Bank or its parent bank holding company with any guideline, request or directive (whether or not having the force of law), has the effect of reducing the return on the Bank's or such holding company's capital as a consequence of the Loan to a level below that which the Bank or such holding company could have achieved but for such adoption, change or compliance by any amount deemed by the Bank to be material, the Bank may notify the Borrower thereof. The Borrower agrees to pay the Bank the amount of the Borrower's allocable share of the amount of such reduction in the return on capital as and when such reduction is determined, upon presentation by the Bank of a statement in the amount and setting forth the Bank's calculation thereof, which statement shall be deemed true and correct absent manifest error. The Bank agrees

to allocate shares of such reduction among the Borrower and the Bank's other customers similarly situated on a fair and non-discriminatory basis.

4. FEES AND PAYMENTS.

The Borrower agrees to pay to the Bank a commitment fee calculated at the rate per annum which is equal to one-half of one percent (1/2%) on the average daily amount during each calendar quarter or portion thereof from the date of this Agreement to October 22, 1997 on the difference between $5,500,000 and the total amount of funds advanced by the Bank through such calendar quarter (including any advance which has been repaid). The commitment fee shall be payable quarterly in arrears on the first day of each calendar quarter for the immediately preceding calendar quarter commencing on the first such date following the date hereof, with a final payment on October 22, 1997 or any earlier date on which the Bank's commitment to make any Advances to the Borrower shall terminate. All payments to be made by the Borrower hereunder or under any of the other Loan Documents shall be made in U.S. dollars in immediately available funds at the Bank's head office at 100 Federal Street, Boston, Massachusetts, without set-off or counterclaim and without any withholding or deduction whatsoever. The Bank shall be entitled to charge any account of the Borrower with the Bank for any sum due and payable by the Borrower to the Bank hereunder or under any of the other Loan Documents. If any payment hereunder is required to be made on a day which is not a Business Day, it shall be paid on the immediately succeeding Business Day, with interest and any applicable fees adjusted accordingly. All computations of interest or of the commitment fee payable hereunder shall be made by the Bank on the basis of actual days elapsed and on a 360-day year.

5. REPRESENTATIONS AND WARRANTIES.

The Borrower represents and warrants to the Bank on the date hereof and on each Drawdown Date that:

(a) the Borrower is duly organized, validly existing, and in good standing under the laws of its jurisdiction of incorporation and is duly qualified and in good standing in every other jurisdiction where it is doing business and where such qualification is necessary except where a failure to be so qualified would not have a Materially Adverse Effect, and the execution, delivery and performance by the Borrower of the Loan Documents to which it is a party (i) are within its corporate authority, (ii) have been duly authorized, (iii) do not conflict with or contravene its Charter Documents;

(b) upon execution and delivery thereof, each Loan Document shall constitute the legal, valid and binding obligation of the Borrower, enforceable in accordance with its terms; except as enforceability is limited by bankruptcy, insolvency, reorganization, moratorium or other laws relating to or affecting generally the enforcement of creditors' rights and except to the extent the availability of the remedy of specific performance or injunctive relief is subject to the discretion of the court before which any proceeding therefor may be brought;

(c) the Borrower has good and marketable title to all its material properties, subject only to Permitted Liens, and possesses all assets, including intellectual properties, franchises and Consents, adequate for the conduct of its business as now conducted, without known conflict with any rights of others. The Borrower maintains insurance with financially responsible insurers, copies of the policies for which have been previously delivered to the Bank, covering such risks and in such amounts and with such deductibles as are customary in the Borrower's business and are adequate;

(d) the Borrower has provided to the Bank its audited Financials as at December 31, 1995 and its unaudited Financials for the fiscal quarter ended June 30, 1996, and such Financials are complete and correct and fairly present the position of the Borrower as at such date and for such period in accordance with GAAP consistently applied. The Borrower has also provided to the Bank its forecast of the operations of the Borrower for the period from fiscal year 1997 through fiscal year 2000, and such forecast has been prepared in good faith based upon reasonable assumptions;

(e) since December 31, 1995 there has been no materially adverse change of any kind in the Borrower which would have a Materially Adverse Effect;

(f) there are no legal or other proceedings or investigations pending or, to the best of the Borrower's knowledge, threatened against the Borrower before any court, tribunal or regulatory authority which would, if adversely determined, alone or together, have a Materially Adverse Effect;

(g) the execution, delivery, performance of its obligations, and exercise of its rights under the Loan Documents by the Borrower, including borrowing under this Agreement (i) do not require any Consents; and (ii) are not and will not be in conflict with or prohibited or prevented by (A) any Requirement of Law as now in effect, or (B) any Charter Document, corporate minute or resolution, instrument, agreement or provision thereof, in each case binding on it or affecting its property;

(h) the Borrower is not in violation of (i) any Charter Document, corporate minute or resolution, (ii) any instrument or agreement, in each case binding on it or affecting its property, or (iii) any Requirement of Law, in a manner which could have a Materially Adverse Effect, including, without limitation, all applicable federal and state tax laws, ERISA and Environmental Laws;

(i) upon execution and delivery of the Security Documents and the filing of documents thereby required, the Bank shall have first-priority perfected Liens on the Collateral, subject only to Liens permitted hereunder and entitled to priority under applicable law, with no financing statements, chattel mortgages, real estate mortgages or similar filings on record anywhere which conflict with such first-priority Liens of the Bank; and

(j) the Borrower has no subsidiaries and, except as set forth on SCHEDULE 5(j) hereto, is not a party to any partnership or joint venture.

6. CONDITIONS PRECEDENT.

In addition to the making of the foregoing representations and warranties and the delivery of the Loan Documents and such other documents and the taking of such actions as the Bank may reasonably require at or prior to the time of executing this Agreement, the obligation of the Bank to make the Loan (or any Advance) to the Borrower hereunder is subject to the satisfaction of the following further conditions precedent:

(a) each of the representations and warranties of the Borrower to the Bank herein, in any of the other Loan Documents or any documents, certificate or other paper or notice in connection herewith shall be true and correct in all material respects as of the time made or claimed to have been made;

(b) no Default or Event of Default shall be continuing;

(c) all proceedings in connection with the transactions contemplated hereby shall be in form and substance reasonably satisfactory to the Bank, and the Bank shall have received all information and documents as it may have reasonably requested;

(d) no change shall have occurred in any law or regulation or in the interpretation thereof that in the reasonable opinion of the Bank would make it unlawful for the Bank to make the Loan or any Advance;

(e) the Borrower shall have delivered to the Bank by not later than October 22, 1996 (i) certified copies of the Charter Documents; (ii) evidence that all corporate action necessary for the valid execution, delivery and performance by the Borrower of the Loan Documents has been duly and effectively taken; (iii) an incumbency certificate signed by a duly authorized officer of the Borrower, and giving the name and bearing a specimen signature of each individual who shall be authorized to sign, in the name and on behalf of the Borrower, each of the Loan Documents and to give notices and to take action on the Borrower's behalf under the Loan Documents; (iv) favorable legal opinions addressed to the Bank in form and substance satisfactory to the Bank from counsel to the Borrower; (v) an updated Survey for the Mortgaged Property together with a Surveyor Certificate relating thereto and evidence of payment of real estate taxes and municipal charges on all the Property not delinquent on or before October 22, 1996; (vi) a Title Policy covering the Mortgaged Property (or commitments to issue such policies, with all conditions to issuance of the Title Policy deleted by an authorized agent of the Title Insurance Company) together with proof of payment of all fees and premiums for such policies, from the Title Insurance Company and in amounts satisfactory to the Bank, insuring the interests of the Bank as

mortgagee under the Mortgage; and (vii) a hazardous waste site assessment from environmental engineers and in form and substance satisfactory to the Bank, covering the Mortgaged Property; and

(f) the Borrower shall have deposited in the Cash Collateral Account all amounts as are then required, if any, pursuant to [section]2.4.

7. COVENANTS.

7.1. AFFIRMATIVE COVENANTS.

The Borrower agrees that until the obligation of the Bank, if any, to make Advances pursuant to [section]2 shall terminate and the payment and satisfaction in full of all the Obligations, the Borrower will comply with its obligations as set forth throughout this Agreement and to:

(a) furnish the Bank: (i) as soon as available but in any event within ninety (90) days after the close of each fiscal year, its audited Financials for such fiscal year, certified by the Borrower's accountants; (ii) as soon as available but in any event within forty-five (45) days after the end of each fiscal quarter its unaudited Financials for such quarter, certified by its chief financial officer; (iii) as soon as available but in any event within thirty (30) days after the end of each month in each fiscal year, its unaudited monthly Financials for such month, certified by its chief financial officer; (iv) as soon as available but in any event within ten (10) days of receipt thereof a copy of the accountant's management letter; and (v) together with the quarterly, monthly and annual audited Financials referred to in (i), (ii) and (iii) above, a certificate of the Borrower setting forth computations demonstrating compliance with the Borrower's financial covenants set forth herein, and certifying that no Default or Event of Default has occurred, or if it has, the actions taken by the Borrower with respect thereto;

(b) keep true and accurate books of account in accordance with GAAP, maintain its current fiscal year and permit the Bank or its designated representatives to inspect the Borrower's premises during normal business hours, to examine and be advised as to such or other business records upon the request of the Bank, and to permit the Bank's commercial finance examiners to conduct periodic commercial finance examinations;

(c) (i) maintain its corporate existence, business and assets, (ii) keep its business and assets adequately insured, (iii) maintain its chief executive office in the United States, (iv) continue to engage in the same lines of business, and (v) comply with all Requirements of Law, including ERISA and Environmental Laws the noncompliance with which would have a Material Adverse Effect;

(d) notify the Bank promptly in writing of (i) the occurrence of any Default or Event of Default, (ii) any noncompliance with ERISA or any Environmental Law or

proceeding in respect thereof which could have a Materially Adverse Effect, (iii) any change of address, (iv) any threatened or pending litigation or similar proceeding affecting the Borrower or any material change in any such litigation or proceeding previously reported that would have a Materially Adverse Effect and (v) claims against any assets or properties of the Borrower encumbered in favor of the Bank;

(e) use the proceeds of the Loan solely to finance the acquisition of the Mortgaged Property and the Project Costs, and not for the carrying of "margin security" or "margin stock" within the meaning of Regulations U and X of the Board of Governors of the Federal Reserve System, 12 C.F.R. Parts 221 and 224;

(f) provide the Bank with evidence that upon the completion of the Office Building and the contemplated improvements and renovations thereto and to the Mortgaged Property, the Borrower has contributed to the payment of the Project Costs (which contribution shall not be funded with the proceeds of any Advance) the greater of (i) $2,000,000 in cash and (ii) an amount in cash equal to twenty seven percent (27%) of the aggregate amount of the Project Costs and, in the event the amount of the Loan exceeds seventy three percent (73%) of the Project Costs, the Borrower shall immediately pay the amount of such excess to the Bank for application to the outstanding principal amount of the Loan, to be applied in the inverse order of maturity; and

(g) cooperate with the Bank, take such action, execute such documents, and provide such information as the Bank may from time to time reasonably request in order further to effect the transactions contemplated by and the purposes of the Loan Documents, including without limitation, where required by [section]2.13 of the Mortgage, assisting the Bank in obtaining one or more environmental assessments or audits of the Mortgaged Property prepared by a hydrogeologist, an independent engineer or other qualified consultant or expert approved by the Bank to evaluate or confirm whether any Hazardous Materials are present in the soil or water at such Mortgaged Property and whether the use and operation of such Mortgaged Property complies with all Environmental Laws. Environmental assessments may include without limitation detailed visual inspections of such Mortgaged Property including any and all storage areas, storage tanks, drains, dry wells and leaching areas, and the taking of soil samples, surface water samples and ground water samples, as well as such other investigations or analysis as the Bank deems appropriate. Subject to the foregoing, all such environmental assessments shall be conducted and made at the expense of the Borrower.

7.2. NEGATIVE COVENANTS.

The Borrower agrees that until the obligation of the Bank, if any, to make Advances pursuant to [section]2 shall terminate and the payment and satisfaction in full of all the Obligations, the Borrower will not:

(a) create, incur or assume any Indebtedness other than (i) Indebtedness to the Bank (including, without limitation, Indebtedness to the Bank incurred under the Original Term Loan Agreement), (ii) Indebtedness in respect of the acquisition of property which does not exceed $2,000,000 in the aggregate, (iii) current liabilities of the Borrower not incurred through the borrowing of money or the obtaining of credit except credit on an open account customarily extended, (iv) Indebtedness in respect of taxes or other governmental charges contested in good faith and by appropriate proceedings and for which adequate reserves have been taken; and (v) Indebtedness not included above and listed on SCHEDULE 7.2(a) hereto;

(b) create or incur any Liens on any of the property or assets of the Borrower except (i) Liens securing the Obligations; (ii) Liens securing taxes or other governmental charges not yet due; (iii) deposits or pledges made in connection with social security obligations; (iv) Liens of carriers, warehousemen, mechanics and materialmen, less than 120 days old as to obligations not yet due; (v) easements, rights-of-way, zoning restrictions and similar minor Liens which individually and in the aggregate do not have a Materially Adverse Effect; (vi) purchase money security interests in or purchase money mortgages on real or personal property other than the Mortgaged Property securing purchase money Indebtedness permitted by [section]7.2(a)(ii) and [section]7.2(a)(v), covering only the property so acquired; (viii) liens and encumbrances on the Mortgaged Property as and to the extent permitted by the Mortgage; and (viii) other Liens existing on the date hereof and listed on SCHEDULE 7.2(b) hereto (collectively, the "Permitted Liens");

(c) make any investments other than (i) investments in (1) marketable obligations of the United States maturing within one (1) year, (2) certificates of deposit, bankers' acceptances and time and demand deposits of United States banks having total assets in excess of $1,000,000,000, or (3) such other investments as the Bank may from time to time approve in writing; (ii) investments made by the Borrower pursuant to the terms and conditions of the Policy; and (iii) other Investments existing on the date hereof and listed on SCHEDULE 7.2(c) hereto;

(d) make any distributions on or in respect of its capital of any nature whatsoever, other than dividends payable solely in shares of common stock other than as contemplated and described on Schedule 7.2(d) hereto; or

(e) become party to a merger or party to any sale-leaseback transaction in excess of $10,000,000 during the term of this Agreement, or to effect any disposition of assets other than in the ordinary course, or to purchase, lease or otherwise acquire assets other than in the ordinary course.

7.3. FINANCIAL COVENANTS.

The Borrower agrees that until the obligation of the Bank, if any, to make Advances pursuant to [section]2 shall terminate and the payment and satisfaction in full of all the Obligations, the Borrower will not permit the ratio of Total Liabilities to Tangible Net Worth to exceed .50 to 1 at any time.

8. EVENTS OF DEFAULT; ACCELERATION.

If any of the following events ("Events of Default") shall occur:

(a) the Borrower shall fail to pay when due and payable any principal of the Loan when the same becomes due;

(b) the Borrower shall fail to pay interest on the Loan or any other sum due under any of the Loan Documents within two (2) Business Days after notice from the Bank as to the amount(s) due and payable;

(c) the Borrower shall fail to perform any term, covenant or agreement contained in [sections]7.1(a), 7.1(d) through (f), 7.2, 7.3 or in the Mortgage;

(d) the Borrower shall fail to perform any other term, covenant or agreement contained in the Loan Documents within fifteen (15) days after the Bank has given written notice of such failure to the Borrower;

(e) any representation or warranty of the Borrower in the Loan Documents or in any certificate or notice given in connection therewith shall have been false or misleading in any material respect at the time made or deemed to have been made;

(f) the Borrower shall be in default (after any applicable period of grace or cure period) under the Original Term Loan Agreement, the Fleet Credit Agreement or any agreement or agreements evidencing Indebtedness owing to a person or entity other than the Bank or any affiliates of the Bank or in excess of $500,000 in aggregate principal amount, or shall fail to pay such Indebtedness when due, or within any applicable period of grace;

(g) any of the Loan Documents shall cease to be in full force and effect,

(h) the Borrower (i) shall make an assignment for the benefit of creditors, (ii) shall be adjudicated bankrupt or insolvent, (iii) shall seek the appointment of, or be the subject of an order appointing, a trustee, liquidator or receiver as to all or part of its assets, (iv) shall commence, approve or consent to, any case or proceeding under any bankruptcy, reorganization or similar law and, in the case of an involuntary case or proceeding, such case or proceeding is not dismissed within forty-five (45) days following the commencement

thereof, or (v) shall be the subject of an order for relief in an involuntary case under federal bankruptcy law;

(i) the Borrower shall be unable to pay its debts as they mature;

(j) there shall remain undischarged for more than thirty (30) days any final judgment or execution action against the Borrower that, together with other outstanding claims and execution actions against the Borrower exceeds $500,000 in the aggregate;

THEN, or at any time thereafter:

(1) In the case of any Event of Default under clause (h) or (i), the obligation of the Bank, if any, to make any Advances pursuant to [section]2 shall terminate, and the entire unpaid principal amount of the Loan, all interest accrued and unpaid thereon, and all other amounts payable thereunder and under the other Loan Documents shall automatically become forthwith due and payable, without presentment, demand, protest or notice of any kind, all of which are hereby expressly waived by the Borrower; and

(2) In the case of any Event of Default other than (h) and (i), the Bank may, by written notice to the Borrower, terminate the obligation of the Bank, if any, to make Advances pursuant to [section]2 hereof and/or declare the unpaid principal amount of the Loan, all interest accrued and unpaid thereon, and all other amounts payable hereunder and under the other Loan Documents to be forthwith due and payable, without presentment, demand, protest or further notice of any kind, all of which are hereby expressly waived by the Borrower.

No remedy herein conferred upon the Bank is intended to be exclusive of any other remedy and each and every remedy shall be cumulative and in addition to every other remedy hereunder, now or hereafter existing at law or in equity or otherwise.

9. SETOFF.

Regardless of the adequacy of any collateral for the Obligations, any deposits or other sums credited by or due from the Bank to the Borrower may be applied to or set off against any principal, interest and any other amounts due from the Borrower to the Bank at any time without notice to the Borrower, or compliance with any other procedure imposed by statute or otherwise, all of which are hereby expressly waived by the Borrower; PROVIDED, HOWEVER, that funds held in the Cash Collateral Account may not be applied by the Bank for obligations owing to the Bank under the Original Term Loan Agreement.

10. MISCELLANEOUS.

The Borrower agrees to indemnify and hold harmless the Bank and its officers, employees, affiliates, agents, and controlling persons from and against all claims, damages, liabilities and losses of every kind arising out of the Loan Documents, including without limitation, against those in respect of the application of Environmental Laws to the Borrower, other than those claims, damages, liabilities and losses arising solely from the Bank's gross negligence or willful misconduct. The Borrower shall pay to the Bank promptly on demand all reasonable costs and out-of-pocket expenses (including any taxes and reasonable legal and other professional fees and fees of its commercial finance examiner) incurred by the Bank in connection with the preparation, negotiation, execution, amendment, administration or enforcement of any of the Loan Documents. Any communication to be made hereunder shall (a) be made in writing, but unless otherwise stated, may be made by telex, facsimile transmission, courier or letter, and (b) be made or delivered to the address of the party receiving notice which is identified with its signature below (unless such party has by five (5) days written notice specified another address), and shall be deemed made or delivered, when dispatched, left at that address, or five (5) days after being mailed, postage prepaid, to such address. This Agreement shall be binding upon and inure to the benefit of each party hereto and its successors and assigns, but the Borrower may not assign its rights or obligations hereunder. The Bank shall be permitted to assign its rights and obligations hereunder (with the consent of the Borrower provided that no Event of Default shall have occurred and be continuing, which consent shall not be unreasonably withheld). This Agreement may not be amended or waived except by a written instrument signed by the Borrower and the Bank, and any such amendment or waiver shall be effective only for the specific purpose given. The Bank agrees to exercise reasonable efforts to keep any information delivered or made available by the Borrower to it confidential from anyone other than persons employed or retained by the Bank, including legal counsel, who are or are expected to become engaged in evaluating, approving, structuring or administering the Loan; provided, however, that nothing herein shall prevent the Bank from disclosing such information (a) upon the order of any court or administrative agency, (b) upon the request or demand of any regulatory agency or authority having jurisdiction over the Bank, (c) which has been publicly disclosed by or on behalf of the Borrower, (d) to the extent reasonably required in connection with any litigation to which the Bank or its affiliates may be a party, (e) to the extent reasonably required in connection with any audits or accountings and (f) to any actual or proposed participant, assignee or other transferee of all or part of its rights hereunder which has agreed in writing to be bound by the provisions of the [section]10. The Bank agrees to provide the Borrower of notice of any required disclosure of information hereunder, unless the Bank is prohibited from noticing the Borrower or the Bank determines in its sole discretion that such a notice would have a material adverse effect on the Bank. No failure or delay by the Bank to exercise any right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or privilege preclude any other right, power or privilege. The provisions of this Agreement are severable and if any one provision hereof shall be held invalid or unenforceable in whole or in part in any jurisdiction, such invalidity or unenforceability shall affect only such provision in such jurisdiction. This Agreement, together with all Schedules hereto, expresses the entire understanding of the parties with respect to the transactions contemplated hereby. This Agreement and any amendment hereby may be executed in several counterparts, each

of which shall be an original, and all of which shall constitute one agreement. In proving this Agreement, it shall not be necessary to produce more than one such counterpart executed by the party to be charged. THIS AGREEMENT AND THE NOTE ARE CONTRACTS UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS AND SHALL BE CONSTRUED IN ACCORDANCE THEREWITH AND GOVERNED THEREBY. THE BORROWER AGREES THAT ANY SUIT FOR THE ENFORCEMENT OF ANY OF THE LOAN DOCUMENTS MAY BE BROUGHT IN THE COURTS OF THE COMMONWEALTH OF MASSACHUSETTS OR ANY FEDERAL COURT SITTING THEREIN. The Borrower, as an inducement to the Bank to enter into this Agreement, hereby waives its right to a jury trial with respect to any action arising in connection with any Loan Document.

IN WITNESS WHEREOF, the undersigned have duly executed this Term Loan Agreement as a sealed instrument as of the date first above written.

CYTOTHERAPEUTICS, INC.

By:

Name:
Title:

Address:

Two Richmond Square
Providence, Rhode Island 02906

Tel: (401) 272-3310
Fax: (401) 272-3485

THE FIRST NATIONAL BANK OF BOSTON

By:

Name: Elizabeth C. Everett
Title: Director

High Technology Division
100 Federal Street, 01-08-04
Boston, Massachusetts 02110
Tel: (617) 434-2318
Fax: (617) 434-0819

SCHEDULE 5(j)

Joint Ventures

SCHEDULE 7.2(a)

Indebtedness

SCHEDULE 7.2(b)

Liens

SCHEDULE 7.2(c)

Investments

SCHEDULE 7.2(d)

Distributions

Exhibit 23.1

Report on Financial Statement Schedule and Consent of Independent Auditors

Our audit also included the financial statement schedule of CytoTherapeutics, Inc. listed in Item 14(a). This schedule is the responsibility of the Company's management. Our responsibility is to express an opinion based on our audit. In our opinion, the financial statement schedule, referred to above, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 33-49524) pertaining to the 1988 Incentive Stock Plan, 1992 Equity Incentive Plan, 1992 Employee Stock Purchase Plan and 1992 Stock Option Plan for Non-Employee Directors, in the Registration Statement (Form S-8 No. 333-10773) pertaining to the 1992 Equity Incentive Plan and in the Registration Statements (Form S-3 No. 33-68900 and No. 333-91228) of CytoTherapeutics, Inc. and in the related Prospectuses of our report dated February 6, 1997, except for Note 17, as to which the date is February 13, 1997, with respect to the consolidated financial statement schedule included in this Annual Report (Form 10-K) of CytoTherapeutics, Inc. for the year ended December 31, 1996.

ERNST & YOUNG LLP

Boston, Massachusetts
March 25, 1997

YEAR	
	DEC-31-1996
	JAN-01-1996
	DEC-31-1996
	19,921,584
	22,685,855
	0
	0
	0
	43,752,211
	17,680,503
	6,948,401
	58,396,743
	7,267,988
	8,222,602
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	0
	156,144
	34,591,211
	58,396,743
	0
	7,104,284
	0
	0
	22,809,175
	0
	618,213
	(13,759,138)
	0
	(13,759,138)
	0
	0
	0
	(13,759,138)
	(.89)
	(.89)

EXHIBIT 99

CAUTIONARY FACTORS RELEVANT TO FORWARD-LOOKING INFORMATION

CytoTherapeutics, Inc. (the "Company") wishes to caution readers that the following important factors, among others, in some cases have affected and in the future could affect the Company's results and could cause actual results and needs of the Company to vary materially from forward-looking statements made by the Company on the basis of management's current expectations. The business in which the Company is engaged is rapidly changing, extremely competitive and involves a high degree of risk, and accura cy with respect to forward-looking projections is difficult. Cross-references in this Exhibit refer to the sections of the Company's Annual Report on Form 10-K.

EARLY STAGE DEVELOPMENT; HISTORY OF OPERATING LOSSES -- Substantially all of the Company's revenues to date have been derived, and for the foreseeable future substantially all of the Company's revenues will be derived, from collaborative agreements, research grants and income earned on invested funds. The Company will incur substantial operating losses in the future as the Company conducts its research, development, clinical trial and manufacturing activities. There can be no assurance that the Company will achieve revenues from product sales or become profitable.

FUTURE CAPITAL NEEDS; UNCERTAINTY OF ADDITIONAL FUNDING -- The development of the Company's products will require the commitment of substantial resources to conduct the time-consuming research, preclinical development and clinical trials that are necessary for regulatory approvals and to establish production and marketing capabilities if such approvals are obtained. The Company will need to raise substantial additional funds to continue its product development efforts and intends to seek such additional funds through partnership, collaborative or other arrangements with corporate sponsors, public or private equity or debt financings, or from other sources. Future cash requirements may vary from projections based on changes in the Company's research and development programs, progress in preclinical and clinical testing, the Company's ability to enter into, and perform successfully under, collaborative agreements, competitive and technological advances, the need to obtain proprietary rights owned by third parties, facilities requirements, regulatory approvals and other factors. Lack of necessary funds may require the Company to delay, reduce or eliminate some or all of its research and product development programs or to license its potential products or technologies to third parties. No assurance can be given that funding will be available when needed, if at all, or on terms acceptable to the Company.

UNCERTAINTIES OF CLINICAL DEVELOPMENT AND NEW MODE OF THERAPY -- None of the Company's proposed products has been approved for commercial sale or entered Phase II or III clinical trials. Even if the Company's proposed products appear to be promising at an early stage of research or development such products may later prove to be ineffective, have adverse side effects, fail to receive necessary regulatory approvals, be difficult or uneconomical to manufacture or market on a commercial scale, may be precluded from development by new regulations, be adversely affected by government price controls or limitations on reimbursement, be precluded from commercialization by proprietary rights of third parties or be subject to significant competition from other products. There can be no assurance that the Company will be able to demonstrate, as required, that its implants, on a consistent basis and on a commercial scale, among other things: (i) successfully isolate transplanted cells from the recipient's immune system; (ii) remain biocompatible with the tissue into which they are implanted, including, for certain implants, brain tissue; (iii) adequately maintain the viability of cells contained within the membrane; (iv) safely permit the therapeutic substances produced by the cells within the membrane to pass through the membrane into the patient in controlled doses for extended periods; and (v) are sufficiently durable for the intended indication.

GOVERNMENT REGULATION -- The Company's research, preclinical development and clinical trials, as well as the manufacturing and marketing of its potential products, are subject to extensive regulation by governmental authorities in the United States and other countries. The process of obtaining FDA and other required regulatory approvals is lengthy, expensive and uncertain. There can be no assurance that the Company or its collaborators will be able to obtain the necessary approvals to commence or continue clinical testing or to manufacture or market its potential products in anticipated time frames, if at all. In addition, several legislative proposals have been made to reform the FDA. If such proposals are enacted they may result in significant changes in the regulatory environment the Company faces. These changes could result in different, more costly or more time-consuming approval requirements for the Company's products, in the dilution of FDA resources available to review the Company's products or in other unpredictable consequences. See "Government Regulation."

There has been increasing regulatory concern about the risks of cell transplantation. Concern has focused on cells derived from cows (such as are used in the Company's pain program) and cells from primates and pigs. The United Kingdom has adopted a moratorium on xenotransplantation pending further research and discussion and the EC Commission has introduced a ban on the use of "high-risk material" from cattle and sheep in the Member States of the European Union in the manufacture of pharmaceuticals (this ban would apparently include cells used in the Company's pain program). In addition, the FDA has recently proposed guidelines which impose significant constraints on the conduct of clinical trials utilizing xenotransplantation. Furthermore, the FDA has published a "Proposed Approach to Regulation of Cellular and Tissue-Based Products" which relates to use of human cells. The Company cannot presently determine the effects of such actions nor what other actions may be taken. Restrictions on the testing or use of cells (whether nonhuman or human) as human therapeutics could materially adversely affect the Company's product development programs and the Company itself. See "Government Regulation."

DEPENDENCE ON OUTSIDE PARTIES -- The Company's strategy for the research, development, commercialization and marketing of its products contemplates that the Company will enter into various arrangements with corporate sponsors, pharmaceutical companies, universities, research groups and others. There is no assurance that the Company will be able to enter into any additional arrangements on terms acceptable to the Company, or successfully perform its obligations under its existing or any additional arrangements. If any of the Company's collaborators fails to perform its obligations in a timely manner or terminates its agreement with the Company, the development or commercialization of the Company's product candidate or research program under such collaborative agreement may be adversely affected.

NEED FOR AND UNCERTAINTY OF OBTAINING PATENT PROTECTION -- Patent protection for products such as those the Company proposes to develop is highly uncertain and involves complex factual and evolving legal questions. No assurance can be given that any patents issued or licensed to the Company will not be challenged, invalidated or circumvented, or that the rights granted under such patents will provide competitive advantages to the Company.

EXISTENCE OF THIRD-PARTY PATENTS AND PROPRIETARY RIGHTS; NEED TO OBTAIN LICENSES - -- There are pending patent applications or issued patents held by others relating to the Company's proposed products or the technology to be utilized by the Company in the development of its proposed products. If such patents or other patents are determined by the Company or a court to be valid and infringed, the Company may be required to alter its products or processes, pay licensing fees or royalties or cease certain activities. In particular, the Company is aware of one issued patent claiming certain methods for treating defective, diseased or damaged cells in the mammalian CNS by grafting genetically modified donor cells from the same mammalian species. In addition, each of the neurotrophic factors which the Company is currently investigating for use in its proposed products is the subject of one or more claims in patents or patent applications of third parties, and certain other neurotrophic factors are the subject of third-party patent applications. The Company may also be required to seek licenses in regard to other cell lines, the techniques used in creating or obtaining such cell lines, the materials used in the manufacture of its implants or otherwise. There can be no assurance that the Company will be able to establish collaborative arrangements or obtain licenses to the foregoing technology or to other necessary or desirable technology on acceptable terms, if at all, or that the patents underlying any such licenses will be valid and enforceable. See "Patents, Proprietary Rights and Licenses."

SOURCES OF CELLS AND OTHER MATERIALS -- The Company's potential products require genetically engineered cell lines or living cells harvested from animal or human sources. There can be no assurance that the Company will successfully identify or develop sources of the cells required for its potenti al products and obtain such cells in quantities sufficient to satisfy the commercial requirements of its potential products. These supply limitations may apply, in particular, to primary cells which must be drawn directly from animal or human sources, such as the bovine adrenal chromaffin cells currently used in the Company's product for the treatment of pain. As an alternative to primary cells, the Company is developing products based on the use of genetically altered cells. Intellectual property rights to important genetic constructs used in developing such cells, including the constructs used to develop cells producing neurotrophic factors, are or may be claimed by one or more companies, which could prevent the Company from using such cells.

MANUFACTURING UNCERTAINTIES -- The Company's pilot manufacturing plant may not have sufficient capacity to permit the Company to produce all the products for all of the clinical trials it anticipates developing. In addition, the Company has not developed the capability to commercially manufacture any of its proposed products and is unaware of any other company which has manufactured any membrane-encapsulated cell product on a commercial scale. There can be no assurance that the Company will be able to develop the capability of manufacturing any of its proposed products at a cost, consistency or in the quantities necessary to make a commercially viable product, if at all.

COMPETITION -- Competitors of the Company are numerous and include major pharmaceutical and chemical companies, biotechnology companies, universities and other research institutions. Currently, several of these competitors market and sell therapeutic products for the treatment of chronic pain, Parkinson's disease and other CNS conditions. In addition, most of the Company's competitors have substantially greater capital resources, experience in obtaining regulatory approvals and, in the case of commercial entities, experience in manufacturing and marketing pharmaceutical products, than the Company. A number of other companies are attempting to develop methods of delivering therapeutic substances within or across the blood brain barrier. There can be no assurance that the Company's competitors will not succeed in developing technologies and products that are more effective than those being developed by the Company or that would render the Company's technology and products obsolete or noncompetitive. See "Competition."

DEPENDENCE ON KEY PERSONNEL -- The Company is highly dependent on the principal members of its management and scientific staff and certain of its outside consultants. Vacancies have occurred and are likely to occur from time to time amoung the Company's senior management and scientific staff. Loss of the services of any of the Company's key employees or consultants or the continued existence of such vacancies could have a material adverse effect on the Company's operations. In addition, the Company's operations are dependent upon its ability to attract and retain additional qualified scientific and management personnel. There can be no assurance the Company will be able to attract and retain such personnel on acceptable terms given the competition among pharmaceutical, biotechnology and healthcare companies, universities and research institutions for experienced personnel.

REIMBURSEMENT AND HEALTHCARE REFORM -- In both domestic and foreign markets,

sales of the Company's potential products will depend in part upon the availability and amounts of reimbursement from third-party healthcare payor organizations, including government agencies, private healthcare insurers and other healthcare payors such as health maintenance organizations and self-insured employee plans. There is considerable pressure to reduce the cost of therapeutic products. There can be no assurance that reimbursement will be provided by such payors at all or without substantial delay, or, if such reimbursement is provided, that the approved reimbursement amounts will provide sufficient funds to enable the Company to sell its products on a profitable basis. See "Reimbursement and Healthcare Cost Control."