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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

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

for the fiscal year ended December 31, 2001

OR

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

for the transition period from _____ to _____.

Commission file number: 0-28386

CELL THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Washington	91-1533912
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
501 Elliott Avenue West, Suite 400 Seattle, WA 98119	98119
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (206) 282-7100

Securities to be registered pursuant to Section 12(b) of the Act:
None

Securities to be registered pursuant to Section 12(g) of the Act:
Common Stock, no par value
(Title of Classes)

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

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

On February 28, 2002, Cell Therapeutics, Inc. had 34,990,992 outstanding shares of Common Stock. Of those, 26,493,979 shares of Common Stock were held by nonaffiliates. The aggregate market value of such Common Stock held by nonaffiliates, based on the closing price of such shares on the Nasdaq National Market on February 28, 2002, was approximately $585,251,996. Shares of Common Stock held by each executive officer and director and by each person known to the Company who beneficially owns more than 5% of the outstanding Common Stock have been excluded in that such persons may under certain circumstances be deemed to be affiliates. This determination of executive officer or affiliate status is not necessarily a conclusive determination for other purposes.

DOCUMENTS INCORPORATED BY REFERENCE

Items 10, 11, 12 and 13 of Part III incorporate by reference information from the Registrant's Proxy Statement to be filed with the Securities and Exchange Commission in connection with the solicitation of proxies for the Registrant's 2002 Annual Meeting of Shareholders.

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PART I

This Form 10-K contains, in addition to historical information, forward-looking statements. These statements relate to our future plans, objectives, expectations, intentions and financial performance, and assumptions that underlie these statements. When used in this Form 10-K, terms such as "anticipates," "believes," "continue," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "should," or "will" or the negative of those terms or other comparable terms are intended to identify forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors that may cause industry trends or our actual results, level of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these statements. These factors include those listed under "Factors Affecting Our Operating Results," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and "Business" and elsewhere in this Form 10-K.

Although we believe that expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. We will not update any of the forward-looking statements after the date of this Form 10-K to conform these statements to actual results or changes in our expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, which apply only as of the date of this Form 10-K.

Item 1. Business

Overview

We develop, acquire and commercialize novel treatments for cancer. Our goal is to build a leading, vertically-integrated biopharmaceutical company with a diversified portfolio of proprietary oncology drugs. Our research and in-licensing activities are concentrated on identifying new, less toxic and more effective ways to treat cancer.

We were incorporated in Washington in 1991. Our principal executive offices are located at 501 Elliott Avenue West, Seattle, Washington 98119. Our telephone number is (206) 282-7100. Our website can be found at www.cticseattle.com.

"CTI," "CT-2584" and "TRISENOX" are our trademarks. All other product names, trademarks and trade names referred to in this Form 10-K are the property of their respective owners.

Our Products

We acquired our lead product called arsenic trioxide, or TRISENOX(R), in January 2000. We received Food and Drug Administration, or FDA, approval to market TRISENOX in the U.S. in September 2000, and the European Agency for the Evaluation of Medicinal Products, or EMEA, approval to market in the European Community, or EU, in March 2002. TRISENOX is marketed for patients with a type of blood cell cancer called acute promyelocytic leukemia, or APL, who have relapsed or failed standard therapies. In its pivotal trial in patients with relapsed or refractory APL, 70% of the 40 patients experienced complete remission following treatment with TRISENOX with 82% achieving a molecular remission. We have received orphan drug designation for TRISENOX from the FDA for APL, multiple myeloma, Myelodysplastic syndromes, or MDS, chronic myeloid leukemia, or CML, and acute myeloid leukemia, or AML. In addition, TRISENOX is currently listed in the U.S. Pharmacopeia Oncology Drug Information, or USP DI, under Orphan Product Designation and Approvals in multiple myeloma and MDS. We have also received designation as an orphan medicinal product by the EMEA under its

recently enacted orphan drug legislation for APL, MDS, and multiple myeloma. Forty-two TRISENOX clinical trials studying the drug alone and in combination with other therapies are ongoing, are planned to begin in the near future, or

were recently completed. Twelve of these 42 trials are being done under the sponsorship of the National Cancer Institute, or NCI, in the United States, under a Cooperative Research and Development Agreement, or CRADA, with us. Preliminary data from ongoing clinical trials have shown encouraging responses in patients with multiple myeloma, MDS, CML, lymphoma, prostate cancer, and neuroblastoma. Ten of these studies are being conducted in patients with various solid tumors for which preclinical studies have shown potential activity of TRISENOX. In addition to the 42 current trials, 4 trials in various solid tumors have been approved in concept by the NCI for inclusion in the CRADA program, and 13 trials are planned by independent investigators for the coming year.

We are also developing a new way to deliver cancer drugs more selectively to tumor tissue in order to reduce the toxic side effects and improve the anti-tumor activity of existing chemotherapy agents. Our technology links, or conjugates, chemotherapy drugs to biodegradable polymers, including polyglutamate. We believe this technology works by taking advantage of the characteristics of tumor blood vessels to increase the percentage of the drug administered that actually reaches the tumor, which may increase the potency and reduce the side effects of a given dose compared to giving the drug alone. In addition, the conjugates appear to be inactive while circulating in the bloodstream, which may also lower toxicity relative to the drug alone.

Our first application of the polymer technology is PG-TXL, or CT-2103, which is paclitaxel linked to polyglutamate. Paclitaxel is the active ingredient in Taxol, the world's best selling cancer drug. In animal studies, PG-TXL demonstrated fewer side effects and improved tumor killing-activity when compared to Taxol alone. The Cancer Research Campaign, or CRC, sponsored a phase I clinical trial of PG-TXL in the United Kingdom for which patient enrollment is complete. Two phase I clinical trials and three phase II clinical trials are currently underway in the U.S. By the end of the second quarter, 4 additional phase I studies investigating various dosing intervals, 5 additional phase II studies in various tumor types, and 2 randomized phase III trials, in non-small-cell lung and first-line ovarian cancer will begin enrolling patients. We also initiated development of a novel polyglutamate-camptothecin molecule, or PG-CPT, and filed a U.S. investigational new drug application, or IND, in December 2001. We initiated a phase I clinical trial with PG-CPT in the first quarter of 2002, and plan to initiate another trial in the second half of 2002.

During 2001, we discontinued clinical development of CT-2584, and are investigating the development of a polymer conjugate of this drug candidate, which may make it easier to administer, and potentially more effective.

The Oncology Market

Overview. According to the American Cancer Society, or ACS, cancer is the second leading cause of death in the United States, resulting in over 550,000 deaths annually. The National Cancer Advisory Board reports that more than 8 million people in the United States have cancer, and it is estimated that one in three American women, and one in two American men will develop cancer in their lifetime. Approximately 1.3 million new cases of cancer are diagnosed each year in the United States. The most commonly used methods for treating patients with cancer are surgery, radiation and chemotherapy. Patients usually receive a combination of these treatments depending upon the type and extent of their disease. At the time of diagnosis, 70% of patients have tumors that have already spread to other parts of the body. Therefore, almost all receive systemic therapy such as chemotherapy during the course of their disease.

Unfortunately, there are significant limitations and complications associated with radiation and chemotherapy that result in a high rate of treatment failure. The principal limitations of chemotherapy include:

- treatment related toxicities
- inability to selectively target tumor tissue
- the development of resistance to the cancer-killing effects of chemotherapy

Treatment related toxicities. The majority of current chemotherapy agents kill cancer cells by disrupting the cell division process. Chemotherapy drugs disrupt the process by killing cells once they begin to undergo division and

replication. Although this mechanism often works in cancer cells, which grow rapidly through cell division, non-cancerous cells are also killed because they too undergo routine cell division. This is especially true for cells that line the mouth, stomach and intestines, hair follicles, blood cells and reproductive cells (sperm and ovum). Because the mechanism by which conventional cancer drugs work is not limited to cancer cells, their use is often accompanied by toxicities. These toxicities limit the effectiveness of cancer drugs and seriously impact patients' quality of life.

Inability to selectively target tumor tissue. When administered, chemotherapy drugs circulate through the bloodstream, reaching both tumor and normal tissues. Normal dividing tissues are generally as sensitive as tumor cells to the killing effects of chemotherapy. These toxic effects on normal tissues prevent use of higher, potentially more effective, doses of chemotherapy.

Chemotherapy resistance. Resistance to the cancer killing effects of conventional chemotherapy drugs is a major impediment to effective treatment of cancer. Approximately 90% of all cancer patients undergoing chemotherapy ultimately develop resistance to chemotherapy and die from their disease. Because many chemotherapy drugs share similar properties, when a tumor develops resistance to a single drug, it may become resistant to many other drugs as well. Drugs that work differently from existing chemotherapies, and are not susceptible to the same mechanisms of resistance, could play a very important role in treating resistant tumors.

Strategy

Our goal is to become a leading cancer drug company. The following are the key elements of our business strategy:

- We initially develop our cancer drug candidates to treat life threatening types or stages of cancer for which current treatments are inadequate, and that qualify for fast-track designation from the FDA and EMEA. We will also seek to expand the market potential of our products by seeking further approval for other indications in larger cancer patient populations.

- We plan to devote a substantial portion of our efforts to develop PG-TXL and to further develop and commercialize TRISENOX for additional indications.

- We have developed our own sales and marketing capabilities in the United States and select European territories and may establish collaborations to commercialize our products.

- We are applying our patented polymer drug delivery technology to develop a portfolio of improved versions of currently marketed anti-cancer drugs and novel cancer fighting agents to improve their ease of administration, side effect profile and effectiveness.

- We plan to continue to in-license or acquire complementary products, technologies, or companies.

Products in Development

The following table lists the currently active trials (indicated by a status of "open") and the trials that will be opened to enrollment during the second quarter of 2002 (status "2Q2002") for our products in development. Also listed are the trials that have recently closed to enrollment but for which clinical trial reports are in progress (status "closed").

Product Candidate	Indication/Intended Use	Phase/ Status
TRISENOX(R) (arsenic trioxide), ATO injection	HEMATOLOGIC MALIGNANCIES	
	Multiple Myeloma	
	ATO single agent (2 trials, US and Europe)	II / open
	ATO single agent, twice weekly dosing schedule	II / open
	ATO in combination with dexamethasone	II / open
	ATO in combination with ascorbic acid (2 trials, one NCI)	I/II / open
	ATO in combination with dexamethasone and ascorbic acid	II / open

	ATO in combination with thalidomide	II / open
	ATO in combination with dexamethasone and ascorbic acid	II / 2Q2002
	ATO in combination with dexamethasone and ascorbic acid after SCT	II / 2Q2002
	Myelodysplastic Syndromes (MDS)	
	ATO single agent (2 trials, US and Europe)	II / open
	ATO in combination with thalidomide	II / open
	ATO single agent	II / 2Q2002
	ATO in combination with cytarabine	II / 2Q2002
	ATO in combination with growth factors	II / 2Q2002
	Acute Promyelocytic Leukemia (APL)	
	ATO in combination with Mylotarg, salvage treatment	II / open
	ATO single agent, APL in molecular relapse (2 trials)	II / open
	ATO in combination with ATRA, de novo APL	II / open
	ATO as consolidation in de novo APL following standard induction (NCI)	III / open
	Chronic Myeloid Leukemia (CML)	
	ATO in combination with ascorbic acid	II / open
	ATO single agent in patients with rel/ref Ph+ ALL or blast crisis CML (NCI)	II / open
	ATO in combination with STI-571 (Gleevec)	II / open
	ATO in combination with STI-571 (Gleevec)	II / 2Q2002
	Non-Hodgkin's Lymphoma (NHL)	
	ATO in combination with Rituxan	II / 2Q2002
	ATO single agent, relapsed/refractory intermediate or high grade NHL (NCI)	II / closed

Product Candidate	Indication/Intended Use	Phase/ Status
	Acute Myeloid Leukemia (AML)	
	Relapsed/refractory AML, secondary leukemia, or pts > 65 yrs of age (NCI)	II / open
	ATO in combination with ascorbic acid	II / 2Q2002
	Other Leukemia/Lymphoma	
	Pediatric patients with refractory leukemia/lymphoma (NCI)	I / open
	Rel/ref acute lymphoblastic leukemia (NCI)	II / open
	Rel/ref lymphoproliferative disorders (NCI)	II / open
	SOLID TUMORS	
	Neuroblastomas and other solid tumors in pediatric patients	II / open
	Advanced cervical carcinoma (NCI)	II / open
	Hormone-refractory prostate cancer (NCI)	II / open
	Urothelial cancer (NCI)	II / open
	Hepatocellular carcinoma	I / 2Q2002
	Advanced cancer patients with renal dysfunction	I / 2Q2002
	Malignant melanoma	II / 2Q2002
	Germ cell tumors	II / 2Q2002
	Hormone-refractory prostate cancer, in combination with docetaxel	II / 2Q2002
	Renal cell carcinoma (NCI)	II / closed
PG-TXL (CT-2103)	Advanced solid tumors - Dosing every 3 weeks (UK)	I / closed
	Advanced solid tumors in combination with cisplatin	I / open
	Advanced solid tumors in combination with carboplatin	I / open
	Advanced solid tumors, single agent - dosing every week (US)	I / 2Q2002
	Advanced solid tumors, single agent - dosing every 2 weeks (UK)	I / 2Q2002
	Advanced solid tumors, single agent - dosing every 3 weeks (US)	I / 2Q2002
	Non-small-cell lung cancer salvage, single agent	I / 2Q2002
	Ovarian front-line dose escalation (GOG)	I/II / 2Q2002
	Ovarian, fallopian tube, peritoneal carcinoma - salvage	II / open
	Colorectal cancer salvage	II / open
	Non-small-cell lung cancer (high risk patients)	II / open
	Ovarian salvage (GOG)	II / 2Q2002
	Lung cancer, in combination with radiation	I / 2Q2002
	Breast cancer (UK - CRC)	II / 2Q2002
	Kaposi sarcoma, single agent	II / 2Q2002
	Non-small-cell lung cancer (second line; multinational)	III / 2Q2002
	Ovarian cancer (front line; multinational)	III / 2Q2002
PG-CPT (CT-2106)	Advanced solid tumors	I / open

TRISENOX (arsenic trioxide injection)

We are marketing TRISENOX for the treatment of patients with chemotherapy resistant or relapsed APL. We received FDA approval in this indication in September 2000, and in March 2002, we received marketing authorization in the EU, in the same indication. We anticipate launching TRISENOX in the EU by mid 2002. TRISENOX is a highly purified version of arsenic, a natural element. TRISENOX appears to have multiple targets and mechanisms of antileukemic activity: it degrades a protein that causes abnormal levels of immature white blood cells while simultaneously forcing immature cancer cells to self destruct through a process called programmed cell death or apoptosis. Apoptosis is a normal part of a cell's life cycle. Because cancer is often associated with a malfunction of the normal process of apoptosis, drugs that can induce apoptosis offer the hope of affecting cancer cells more selectively without the typical toxic side effects of conventional treatments. Direct induction of apoptosis represents a new method of killing tumor cells that is different from that of

the majority of conventional cancer drugs. As a result, in addition to its use as single agent therapy, TRISENOX may work well when administered in combination with other cancer therapies to produce more durable cancer response rates.

We intend to protect TRISENOX by obtaining orphan drug marketing exclusivity in the U.S. and Europe. When granted orphan drug status, products usually receive seven years of marketing exclusivity in the U.S. and ten years in the EU. If a product with an orphan drug designation subsequently receives the first FDA or EMEA approval for the indication for which it has such designation, the product is entitled to orphan drug marketing exclusivity, meaning that the regulatory agency may not approve any other applications to market the same drug for the same indication, except in certain very limited circumstances, for a period of seven or ten years. We have received U.S. orphan drug marketing exclusivity for TRISENOX(R) in APL and have received U.S. orphan drug designation for TRISENOX for the treatment of multiple myeloma, MDS, CML, and AML. In addition, TRISENOX has received orphan drug designation for the treatment of APL, multiple myeloma, and MDS under the recently enacted European orphan drug regulation. We also plan to pursue orphan designation for other indications. In addition, we have exclusive rights to several patent applications filed by PolaRx Biopharmaceuticals, Inc., or PolaRx, Memorial Sloan-Kettering Cancer Center and the Sam Waxman Cancer Foundation that cover methods of treating a variety of cancers and conditions with TRISENOX.

TRISENOX for Acute Promyelocytic Leukemia. APL is a malignant disorder of the white blood cells that can occur across all age groups. Based on ACS data, approximately 1,500 to 2,000 patients are diagnosed with APL each year in the United States, with a similar incidence in the EU. Current treatment for newly diagnosed APL patients includes the use of all-trans retinoic acid, commonly called ATRA, in combination with anthracycline chemotherapy. Up to 10% of patients die during front line therapy, some patients will have long-term toxicity due to anthracycline treatment, and up to 30% of patients who achieve initial remission will eventually relapse. After relapse, the long-term outlook for these patients is poor.

TRISENOX has been investigated in relapsed and refractory APL patients, previously treated with an anthracycline and retinoid regimen in two open label studies. One was a single investigator clinical, or pilot, trial involving 12 patients and the other was a multicenter, 9-institution study, or pivotal trial, of 40 patients. The pilot trial results and accompanying editorial describing the use of TRISENOX to treat patients with relapsed APL were published in the November 5, 1998 issue of The New England Journal of Medicine. The results of this study were confirmed by the pivotal trial that was published in September 2001 in The Journal of Clinical Oncology. Long term follow up data from multicenter study were presented at the 8th International Symposium on APL in Rome, Italy. The results demonstrated that among the 85% of patients who achieved a complete remission, an unprecedented 82% were confirmed to

have a molecular remission using a highly sensitive molecular test. With a median follow up of 30 months, the overall survival estimate for the 52 patients in these two studies is 66%.

Side effects of TRISENOX noted in these studies were generally manageable, and most patients were treated as outpatients once the serious symptoms of their APL were resolved. The most common side effects included nausea, cough, fatigue, headache, vomiting, abdominal pain, diarrhea, shortness of breath, leukocytosis (an increase in the number of white blood cells in circulation), hyperglycemia (increased blood sugar), rash, prolongation of the QT interval (an asymptomatic change in electrocardiogram, or EKG), edema (water retention), and dizziness.

TRISENOX for Multiple Myeloma. Multiple myeloma is a malignant disease of the bone marrow that is invariably fatal. According to the Multiple Myeloma Research Foundation, multiple myeloma is the second most common blood cell malignancy, affecting between 40,000 and 50,000 people in the United States with over 14,000 new cases reported annually. The disease is initially treated with oral chemotherapy drugs. Once the disease can no longer be controlled with oral drugs, treatments include high dose corticosteroids, high dose chemotherapy, a combination of high dose chemotherapy and stem cell transplants and recently thalidomide. Fewer than 50% of patients respond to these treatments.

Preclinical studies have suggested that TRISENOX may be able to kill multiple myeloma cells taken from chemotherapy-resistant patients and that the

killing may be enhanced when TRISENOX is combined with vitamin C (ascorbic acid), corticosteroids, or other agents used to treat myeloma. Preliminary reports from three clinical studies using TRISENOX in patients with myeloma who had failed multiple prior therapies showed encouraging responses as reported at ASH in December 2000 and 2001, and during a 2001 symposium at the International Myeloma Meeting in Banff. We are sponsoring several multicenter trials with TRISENOX used either as a single agent or in combination with corticosteroids, ascorbic acid, or thalidomide for advanced stages of multiple myeloma. TRISENOX has received orphan drug designation from the FDA and the EMEA for this indication.

TRISENOX for Myelodysplastic Syndrome, or MDS. MDS is a preleukemic condition affecting about 50,000 individuals a year with an annual incidence of 10,000 to 20,000 patients a year. Many patients who develop MDS progress to develop acute leukemia. All patients have a progressive decline in their ability to make blood cells, ultimately resulting in anemia requiring red blood cell transfusions, a low white blood cell count placing them at risk for infections, and a low platelet count making them prone to bleeding. There is no specific approved therapy for this disorder except supportive care and the use of growth factors such as Procrit and Leukine. Data from phase I studies suggested that some patients improved after receiving TRISENOX. Several trials to explore the activity of TRISENOX in MDS have been initiated and the early data have shown that some patients had apparent clinical benefit. Orphan drug designation has been received from both the FDA and the EMEA.

TRISENOX for Chronic Myeloid Leukemia, or CML. CML is a form of leukemia affecting approximately 15,000 individuals in the U.S. and has an annual incidence of 5,000 patients per year. It is caused by a highly specific chromosomal rearrangement that produces an abnormal fusion gene called the bcr-abl (this is similar to the cause of APL, which results from a different chromosomal rearrangement). A dramatic advance was recently made in the treatment of CML with the approval of Gleevec, a new drug that specifically targets and inactivates the bcr-abl gene product. Gleevec can induce durable clinical remissions in a very high percentage of patients with early stage CML. Although it is active in patients with later stages of the disease termed accelerated phase or blast crisis, the remissions are short-lived as resistance to Gleevec develops. There is a major need to identify drugs that will enhance the efficacy of Gleevec in advanced stages of CML and in particular, prevent the emergence of resistance.

Two recent publications indicate that TRISENOX may be the ideal agent to use with Gleevec for the following reasons:

- It is active in CML by itself producing complete remissions in 74% of newly diagnosed CML patients in a study from China
- It causes degradation of the bcr-abl and therefore works in concert with Gleevec against the direct cause of the disease and prevents the emergence of resistance to Gleevec
- CML cells are far more sensitive to TRISENOX than are normal blood cells

Trials exploring the use of TRISENOX in conjunction with Gleevec in both early and later stages of CML are in progress or are about to begin.

TRISENOX for Other Hematologic Malignancies. A number of other cancers of blood and lymphatic organs are under study including lymphomas and leukemias. Non-Hodgkin's lymphoma affects 180,000 people in the U.S. and there are 55,000 new cases per year according to the American Cancer Society. Despite new effective therapies, relatively few patients are cured and additional treatments are needed. Data from phase I and phase II studies indicate that TRISENOX can induce remissions in patients with advanced lymphomas. Studies are currently in progress to evaluate the activity of TRISENOX as a single agent and in combination with standard therapies for lymphoma.

TRISENOX for Solid Tumors. Solid tumors include malignancies that develop in various tissues throughout the body, as opposed to hematologic cancers described above. Genitourinary cancers, such as cervical, renal cell, bladder and prostate cancer, affect approximately 850,000 patients in the United States, with over 300,000 new cases diagnosed annually. Preclinical tests and preliminary clinical trials results have suggested that TRISENOX may have

significant anti-tumor activity in a number of solid tumors including cancers of the ovary, prostate, bladder, liver, lung and melanoma. Early data from phase I and II studies show evidence for clinical activity in prostate cancer and neuroblastoma. A number of other studies of TRISENOX as a single agent and in combination with standard therapy in patients with solid tumors will begin shortly. Ten trials in various solid tumors are currently underway or are soon to begin.

Polyglutamate Drug Delivery Technology

We are also developing a new way to deliver cancer drugs more selectively to tumor tissue with the goal of reducing the toxic side effects and improving the anti-tumor activity of existing chemotherapy agents. Our technology links cancer drugs to proprietary polymers, such as polyglutamate. Polyglutamate, which we call PG, is a biodegradable polymer of glutamic acid, a naturally occurring amino acid. To build PG we link glutamic acid molecules together to an optimal size. We believe the polymer technology takes advantage of a well-described difference between tumor blood vessels and blood vessels in normal tissues. The blood vessels in tumor tissues are more porous than those in normal tissues, and they are therefore more permeable to large molecules, such as our polymers, that are within a specific size range. As the polymer, carrying its tumor-killing drug, circulates in the bloodstream and passes through the tumor blood vessels, it becomes trapped in the tumor tissue allowing a significantly greater percentage of the anti-cancer drug to accumulate in tumor tissue compared to normal tissue. The toxicity of the chemotherapy drug to normal tissues also may be reduced because the drug appears to be inactive as long as it is bound to the polymer. Once the polymer backbone is digested in the tumor, the cancer-killing drug is released directly into the cancer tissues.

Based on preclinical animal studies and phase I and preliminary phase II clinical trial data, we believe that our polymer-chemotherapy drug conjugates may be able to achieve a number of benefits over existing chemotherapy drugs:

- more drug reaches the tumor
- increased efficacy using the same amount of active drug
- ability to use higher doses of the active drug
- less toxicity at the same or higher doses of active drug
- broader applicability due to differentiated tumor uptake mechanism
- potential to overcome resistance to the underlying chemotherapy drug

In addition, we believe that linking our polymers to existing drugs will yield patentable subject matter and that our polymer-drug conjugates will not infringe any third party patents covering the underlying drug. However, there can be no assurance that we will receive a patent for our polymer conjugates or that we will not be challenged by the holder of a patent covering the underlying drug.

We licensed the worldwide exclusive rights to PG and related polymers and their applications from PG-TXL Company in 1998. The technology was originally developed at the M.D. Anderson Cancer Center. The initial patent, which issued in November 1999, covers PG and related polymers coupled with commonly used cancer drugs such as paclitaxel, docetaxel, etoposide, teniposide, or camptothecins. The patented technology covers formulations of PG-conjugated paclitaxel that also include the use of human serum albumin and conjugation to epothilones.

Our strategy is to use this novel polymer technology to build a portfolio of potentially safer and more effective versions of well-known anti-cancer agents. We believe that our polymer drug development program may lower the risks inherent in developing new drugs because we are linking polymers to well defined and widely used chemotherapy drugs. We are initially focusing our development efforts on applying PG to two of the fastest growing classes of anticancer drugs, taxanes and camptothecins.

PG-TXL (polyglutamate paclitaxel). PG-TXL, or CT-2103, is PG linked to paclitaxel, the active ingredient in Taxol, the world's best selling cancer

drug. Taxol is difficult to administer because it must be mixed in castor oil and ethanol, which is extremely irritating to blood vessels and requires surgical placement of a large catheter for administration. It also may cause allergic reactions, and requires a minimum of three hours of intravenous infusion. PG-TXL is 80,000 times more water-soluble than paclitaxel, allowing it to be dissolved in 100 mL of dextrose in water and infused over ten minutes. Also, because PG-TXL is water soluble, its administration does not require routine premedication with steroids and antihistamines to prevent severe allergic reactions; such premedication can be reserved for those patients who show signs of sensitivity during treatment. PG-TXL may also allow delivery of higher doses than can be achieved with the currently marketed version of paclitaxel.

It is estimated that more than 2 million people have breast, ovarian, lung and colon cancer, with more than 500,000 new cases diagnosed each year in the United States. IMS Health reported taxane U.S. sales of approximately $800 million, and worldwide sales of roughly $1.3 billion for the year ended September 2001, despite the difficulties associated with their administration and their serious dose-limiting toxicities.

The majority of taxane use has been in breast, ovarian and lung cancer indications. Most recently, Taxol received approval as a first-line treatment in node-positive breast cancer, which is expected to add up to an additional 75,000 patients annually eligible for treatment in the U.S.

PG-TXL has been compared to paclitaxel in numerous studies in animals with a variety of different tumors. These studies indicate that PG-TXL has a unique profile resulting in better tolerability and efficacy, both when used by itself as a single agent or in combination with other chemotherapy, radiation therapy, or therapeutic monoclonal antibodies. Specifically:

- The maximum tolerated dose (MTD) for PG-TXL is approximately twice that for the approved formulation of paclitaxel.

- When the MTD of PG-TXL is compared to the MTD of paclitaxel, in over 20 different animal tumor models, PG-TXL was invariably more effective and in a number of models was curative. Cures were never observed with paclitaxel in these models.

- Examination of the distribution of PG-TXL to tumor tissue in mice and comparing it to tumors in mice who received the same dose of the approved preparation of paclitaxel showed that 12-fold more paclitaxel was delivered with PG-TXL. Strikingly, more paclitaxel was present in the tumors at the end of one week following PG-TXL administration than was present one day after administration of standard paclitaxel.

- Because in PG-TXL, paclitaxel is tightly bound to PG backbone, it is both highly water soluble and inactive until released. Therefore, it can be delivered without toxic solubilizing agents such as Cremaphor (used in Taxol), which abolishes the requirement for premedications to prevent infusional toxicity. Moreover, little free paclitaxel is present in circulation reducing side effects to normal tissues such as the bone marrow, nervous tissue, and hair follicles.

- PG-TXL is engulfed by tumor cells instead of passively diffusing into them. Because of this, it bypasses a common mechanism of paclitaxel resistance associated with a cell membrane pump known as the multi-drug resistance pump, or MDR; PG-TXL in preclinical studies is effective in tumors that are resistant to standard paclitaxel.

Lastly, PG-TXL is more effective than standard paclitaxel at enhancing the effectiveness of other cancer therapies including chemotherapy and radiation. A recent report shows that in a curative, standard radiation model, PG-TXL was more than 4 times as effective as paclitaxel at enhancing radiation curability. Most importantly, unlike standard paclitaxel, PG-TXL did not sensitize normal organs such as skin, hair follicles, or the GI tract to radiation. A recently approved grant from the National Cancer Institute to the MD Anderson Cancer Center and us will support a clinical trial using PG-TXL in sensitive patients

undergoing potentially curative radiation for lung cancer.

We chose to initiate human trials of PG-TXL in the U.K. because of the CRC's experience with polymer drug conjugates and because of the ability to perform trials in patients who had not received a taxane. The phase I clinical trial of PG-TXL sponsored by the CRC has completed patient enrollment. Preliminary data presented by the investigator showed that PG-TXL may have a more favorable toxicity profile than expected from equivalent doses of Taxol, while demonstrating evidence of anti-tumor activity, supporting the preclinical evidence that PG-TXL may have applications across a broader variety of types of cancer.

Based on the preliminary data generated in the phase I CRC trial, and following discussions with a number of opinion leaders and cooperative groups, we initiated an aggressive development program for PG-TXL. Two phase I clinical trials (one in combination with cisplatin and one with carboplatin) and 3 phase II clinical trials are currently underway in the U.S. By the end of the second quarter of 2002, 4 additional phase I studies investigating various dosing intervals, 5 additional phase II studies in various tumor types (non-small-cell lung, ovarian, breast cancers and Kaposi sarcoma), and 2 randomized phase III trials, in non-small-cell lung and first-line ovarian cancer, will begin enrolling patients. Some of these ongoing studies use PG-TXL at doses in excess of the approved dose for Taxol and all use a convenient 10-minute infusion time. Our registration strategy for PG-TXL is to examine its potential safety and efficacy as single agent therapy or in combination with other chemotherapy drugs in solid tumors.

PG-CPT (polyglutamate camptothecin). PG-CPT is a camptothecin linked to PG. Camptothecins are an important and rapidly growing class of anti-cancer drugs. However, like taxanes, their full clinical benefit is limited by poor solubility and significant toxicity. To avert solubility limitations, oral analogs such as Hycamtin and Camptosar were developed. However, conversion to oral dosage forms has been accompanied by a reduction in anti-tumor potency. Despite these limitations, camptothecins are becoming standard drugs in the treatment of advanced colon, lung and ovarian cancer. Worldwide sales for camptothecins exceeded $700 million in 2001.

Linking a camptothecin to PG renders it water soluble, and animal studies suggest that it permits up to 400% more drug to be administered without an increase in toxicity. PG-CPT showed significantly enhanced anti-tumor activity in animal models of lung, colon and breast cancer, with up to 500% improvement over the free drug. We have optimized a polyglutamate camptothecin for clinical development and filed an IND in December 2001. A phase I clinical trial of PG-CPT in patients with advanced cancers was initiated in the first quarter of 2002 and we plan to initiate another trial in the second half of 2002.

Collaboration and Licensing Arrangements

PG-TXL Company, L.P. On June 30, 1998, we entered into an agreement with PG-TXL Company, L.P. granting us an exclusive worldwide license for the rights to PG-TXL and to all potential uses of PG-TXL Company's polymer technology. Under the terms of the agreement, we acquired the rights to fund the research, development, manufacture, marketing and sale of anti-cancer drugs developed using this polymer technology. We are obligated to make payments upon the attainment of significant development milestones, as defined in the agreement. We also granted warrants to purchase 350,000 shares of our common stock to PG-TXL Company, L.P., which became exercisable upon our entering a licensing agreement for PG-TXL with Chugai Pharmaceutical Co. Ltd. The aggregate amount of milestone payments we may be required to pay pursuant to the PG-TXL agreement is $20.5 million, of which $2.0 million was paid in 2000. These are payable upon future milestones, such as trial commencements and completions, filings and regulatory approvals.

Chugai Pharmaceutical Co., Ltd. In October 2001, we entered into a licensing agreement with Chugai Pharmaceutical Co., Ltd. for the development and commercialization of PG-TXL. This agreement grants an exclusive license to Chugai to develop and commercialize PG-TXL in several Asian markets. Upon execution of the agreement, Chugai paid us a $3.0 million initial payment. Under the agreement, we may also receive milestone payments totaling up to $16.0 million upon Chugai's achievement of certain product development milestones, and we are entitled to receive royalties on product sales in the territories covered

under the agreement. Chugai has also committed up to $54 million in development expenditures over the course of the licensing agreement. The agreement will terminate on a country-by-country basis upon the earlier to occur of the expiration of the applicable patent rights, if any, in a given country or fifteen years from the date of the first commercial sale of PG-TXL in such country.

Patents and Proprietary Rights

We dedicate significant resources to protecting our intellectual property. Through our acquisition of PolaRx, we obtained rights to four pending patent applications that, in the aggregate, cover dosage formulations, methods of administration and methods of use for various forms of arsenic trioxide and related compounds. We have exclusive rights to two issued patents and 21 U.S. and foreign pending patent applications relating to our polymer drug delivery technology. Nine issued U.S. patents cover the chemical entity, pharmaceutical compositions and methods of use of CT-2584 and related compounds. We intend to file additional patent applications when appropriate, with respect to improvements in our core technology and to specific products and processes that we develop. Patents may not issue from any present or future applications or, if patents do issue, such patents may not be issued on a timely basis or claims allowed on issued patents may not be sufficient to protect our technology. In addition, the patents issued to us may be challenged, invalidated or circumvented or the rights granted thereunder may not provide proprietary protection or commercial advantage to us. With respect to such issued U.S. patents or any patents that may issue in the future, they may not effectively protect the technology involved, foreclose the development of competitive products by others or otherwise be commercially valuable.

We have sought and intend to aggressively seek patent protection in the United States, Canada, Mexico, Europe and Japan to protect any products that we may develop. We also intend to seek patent protection or rely upon trade secrets to protect certain of our enabling technologies that will be used in discovering and evaluating new drugs that could become marketable products. However, such steps may not effectively protect the technology involved. To protect any such trade secrets and other proprietary information, we rely on confidentiality and material transfer agreements with our corporate partners, employees, consultants, outside scientific collaborators and sponsored researchers and other advisors. These agreements may be breached, we may not have adequate remedies for breach or our trade secrets may otherwise become known or independently discovered by competitors. We also have members of our Scientific Advisory Board, our clinical advisors, our consultants and, in most cases, our employees enter into agreements requiring disclosure to us of ideas, developments, discoveries or inventions conceived during employment or consulting and assignment to us of proprietary rights to such matters related to our business and technology.

Manufacturing

We currently use, and expect to continue to be dependent upon, contract manufacturers to manufacture each of our product candidates. We have established a quality control and quality assurance program, including a set of standard operating procedures and specifications, designed to ensure that our products are manufactured in accordance with current Good Manufacturing Procedures, or cGMPs, and other applicable domestic and foreign regulations. These manufacturers may not meet our requirements for quality, quantity or timeliness.

We will need to develop additional manufacturing resources, and may seek to enter into additional collaborative arrangements with other parties that have established manufacturing capabilities or may elect to have a third party manufacture our products on a contract basis. We have agreements with third party vendors to furnish TRISENOX, PG-TXL and PG-CPT drug supply for clinical studies and in the case of TRISENOX, for commercial market demand. In September 2001, we entered into a supply agreement with Natural Pharmaceuticals, Inc. for paclitaxel, a key starting material for PG-TXL. Under the supply agreement, we purchased paclitaxel at a pre-determined price and will receive supply over a multi-year term. We will be dependent upon these third parties to supply us in a timely manner with products manufactured in compliance with cGMPs or similar standards imposed by foreign regulatory authorities where our products are tested and/or marketed. Contract manufacturers may violate cGMPs, and the FDA has recently intensified its oversight of drug manufacturers. The FDA may take

action

against a contract manufacturer who violates cGMPs. Such actions may include requiring the contract manufacturer to cease its manufacturing activities.

Sales and Marketing

We have developed an experienced sales and marketing infrastructure in the United States to commercialize our portfolio of oncology products. The oncology market is highly concentrated. It is comprised primarily of the approximately 8,500 physicians who order the vast majority of cancer therapeutics, but we sell TRISENOX primarily to pharmaceutical wholesalers and oncology distributors, who in turn sell TRISENOX primarily to hospitals and clinics. We currently are marketing TRISENOX with our direct sales force in the U.S. consisting of 3 regional business directors, 29 field based oncology account managers and 3 medical science liaisons and expect to have a total of 51 field based sales personnel by the end of 2002. We plan to use a combination of our own sales personnel and contract sales personnel to support the commercialization outside of the U.S.

Competition

Competition in the pharmaceutical and biotechnology industries is intense. We face competition from a variety of companies focused on developing oncology drugs. We compete with large pharmaceutical companies and with other specialized biotechnology companies. Many of our existing or potential competitors have substantially greater financial, technical and human resources than us and may be better equipped to develop, manufacture and market products. Smaller companies may also prove to be significant competitors, particularly through collaborative arrangements with large pharmaceutical and established biotechnology companies. Many of these competitors have significant products that have been approved or are in development and operate large, well-funded research and development programs.

We expect to encounter significant competition for the principal pharmaceutical products we plan to develop. Companies that complete clinical trials, obtain required regulatory approvals and commence commercial sales of their products before their competitors may achieve a significant competitive advantage if their products work through a similar mechanism as our products. Accordingly, we do not believe competition is as intense among products that treat cancer through novel delivery or therapeutic mechanisms. A number of biotechnology and pharmaceutical companies are developing new products for the treatment of the same diseases being targeted by us. In some instances, such products have already entered late-stage clinical trials or received FDA approval. However, cancer drugs with distinctly different mechanisms of action are often used together in combination for treating cancer, allowing several different products to target the same cancer indication or disease type.

We believe that our ability to compete successfully will be based on our ability to create and maintain scientifically advanced technology, develop proprietary products, attract and retain scientific personnel, obtain patent or other protection for our products, obtain required regulatory approvals and manufacture and successfully market our products either alone or through outside parties. We will continue to seek licenses with respect to technology related to our field of interest and may face competition with respect to such efforts.

Government Regulation

The research, development, testing, manufacture, labeling, promotion, advertising, distribution, and marketing, among other things, of our products are extensively regulated by governmental authorities in the United States and other countries. In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or the FDCA, and its implementing regulations. Failure to comply with the applicable U.S. requirements may subject us to administrative or judicial sanctions, such as FDA

refusal to approve pending new drug applications, warning letters, product

recalls, product seizures, total or partial suspension of production or distribution, injunctions, and/or criminal prosecution.

Drug Approval Process. None of our drugs may be marketed in the U.S. until the drug has received FDA approval. The steps required before a drug may be marketed in the U.S. include:

- preclinical laboratory tests, animal studies, and formulation studies
- submission to the FDA of an investigational new drug application, or IND, for human clinical testing, which must become effective before human clinical trials may begin
- adequate and well-controlled human clinical trials to establish the safety and efficacy of the drug for each indication
- submission to the FDA of an NDA
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug is produced to assess compliance with cGMPs, and
- FDA review and approval of the NDA.

Preclinical tests include laboratory evaluation of product chemistry, toxicity, and formulation, as well as animal studies. The conduct of the preclinical tests and formulation of the compounds for testing must comply with federal regulations and requirements. The results of the preclinical tests, together with manufacturing information and analytical data, are submitted to the FDA as part of an IND, which must become effective before human clinical trials may begin. An IND will automatically become effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions about issues such as the conduct of the trials as outlined in the IND. In such a case, the IND sponsor and the FDA must resolve any outstanding FDA concerns or questions before clinical trials can proceed. We cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin.

Clinical trials involve the administration of the investigational drug to human subjects under the supervision of qualified investigators. Clinical trials are conducted under protocols detailing the objectives of the study, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND.

Clinical trials typically are conducted in three sequential phases, but the phases may overlap or be combined. The study protocol and informed consent information for study subjects in clinical trials must also be approved by the Institutional Review Board at each institution where the trials will be conducted. Study subjects must sign an informed consent form before participating in a clinical trial. Phase I usually involves the initial introduction of the investigational drug into people to evaluate its short-term safety, dosage tolerance, metabolism, pharmacokinetics and pharmacologic actions, and, if possible, to gain an early indication of its effectiveness. Phase II usually involves trials in a limited patient population to (i) evaluate dosage tolerance and appropriate dosage; (ii) identify possible adverse effects and safety risks; and (iii) evaluate preliminarily the efficacy of the drug for specific indications. Phase III trials usually further evaluate clinical efficacy and test further for safety by using the drug in its final form in an expanded patient population. There can be no assurance that phase I, phase II, or phase III testing will be completed successfully within any specified period of time, if at all. Furthermore, the Company or the

FDA may suspend clinical trials at any time on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk.

Assuming successful completion of the required clinical testing, the results of the preclinical studies and of the clinical studies, together with other detailed information, including information on the manufacture and composition of the drug, are submitted to the FDA in the form of an NDA requesting approval to market the product for one or more indications. The testing and approval process requires substantial time, effort, and financial

resources. The agencies review the application and may deem it to be inadequate to support the registration and we cannot be sure that any approval will be granted on a timely basis, if at all. The FDA may also refer the application to the appropriate advisory committee, typically a panel of clinicians, for review, evaluation and a recommendation as to whether the application should be approved. The FDA is not bound by the recommendations of the advisory committee.

Before approving an NDA, the FDA usually will inspect the facility or the facilities at which the drug is manufactured, and will not approve the product unless cGMP compliance is satisfactory. If the FDA evaluates the NDA and the manufacturing facilities as acceptable, the FDA may issue an approval letter, or in some cases, an approvable letter followed by an approval letter. Both letters usually contain a number of conditions that must be met in order to secure final approval of the NDA. When and if those conditions have been met to the FDA's satisfaction, the FDA will issue an approval letter. The approval letter authorizes commercial marketing of the drug for specific indications. As a condition of NDA approval, the FDA may require postmarketing testing and surveillance to monitor the drug's safety or efficacy, or impose other conditions. After approval, certain changes to the approved product, such as adding new indications, manufacturing changes, or additional labeling claims are subject to further FDA review and approval.

Post-Approval Requirements. Once the FDA approves a drug product, we are required to comply with a number of post-approval requirements. For example, holders of an approved NDA are required to report certain adverse reactions to the FDA, and to comply with certain requirements concerning advertising and promotional labeling for their products. Also, quality control and manufacturing procedures must continue to conform to cGMP after approval, and the FDA periodically inspects manufacturing facilities to assess compliance with cGMP. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. We use and will continue to use third party manufacturers to produce our products in clinical and commercial quantities, and future FDA inspections may identify compliance issues at our facilities or at the facilities of our contract manufacturers that may disrupt production or distribution, or require substantial resources to correct. In addition, discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved NDA, including withdrawal of the product from the market.

Orphan Drug. The FDA may grant orphan drug designation to drugs intended to treat a "rare disease or condition," which generally is a disease or condition that affects fewer than 200,000 individuals in the United States. Orphan drug designation must be requested before submitting an NDA. After the FDA grants orphan drug designation, the identity of the therapeutic agent and its potential orphan use are publicly disclosed by the FDA. Orphan drug designation does not convey an advantage in, or shorten the duration of, the review and approval process. If a product which has an orphan drug designation subsequently receives the first FDA approval for the indication for which it has such designation, the product is entitled to orphan exclusivity, meaning that the FDA may not approve any other applications to market the same drug for the same indication, except in certain very limited circumstances, for a period of seven years. Orphan drug designation does not prevent competitors from developing or marketing different drugs for an indication.

We have obtained orphan drug market exclusivity from the FDA for TRISENOX to treat patients with drug resistant or relapsed APL. We have also received orphan drug designation for TRISENOX for the treatment of patients with refractory multiple myeloma and MDS, CML, and AML. However, TRISENOX may not receive an orphan drug marketing exclusivity for any of these indications, or any of our other drug products may not receive orphan drug exclusivity for any indication. Also, it is possible that our competitors could obtain approval, and attendant orphan drug exclusivity, for products that would preclude us from marketing our products for specified indications for some time.

Non-United States Regulation. Before our products can be marketed outside of the United States, they are subject to regulatory approval similar to that required in the United States, although the requirements governing the conduct of clinical trials, including additional clinical trials that may be required, product licensing, pricing and reimbursement vary widely from country to country. No action can be taken to market any product in a country until an appropriate application has been approved by the regulatory authorities in that

country. The current approval process varies from country to country, and the time spent in gaining approval varies from that required for FDA approval. In certain countries, the sales price of a product must also be approved. The pricing review period often begins after market approval is granted. Even if a product is approved by a regulatory authority, satisfactory prices, may not be approved for such product.

In Europe, marketing authorizations may be submitted at a centralized, a decentralized or national level. The centralized procedure is mandatory for the approval of biotechnology products and provides for the grant of a single marketing authorization that is valid in all European Union members states. As of January 1995, a mutual recognition procedure is available at the request of the applicant for all medicinal products that are not subject to the centralized procedure. There can be no assurance that the chosen regulatory strategy will secure regulatory approvals on a timely basis or at all.

Environmental Regulation

In connection with our research and development activities, we are subject to federal, state and local laws, rules, regulations and policies governing the use, generation, manufacture, storage, air emission, effluent discharge, handling and disposal of certain materials, biological specimens and wastes. Although we believe that we have complied with these laws, regulations and policies in all material respects and have not been required to take any significant action to correct any noncompliance, we may be required to incur significant costs to comply with environmental and health and safety regulations in the future. Our research and development involves the controlled use of hazardous materials, including, but not limited to, certain hazardous chemicals and radioactive materials. Although we believe that our safety procedures for handling and disposing of such materials comply with the standards prescribed by state and federal regulations, the risk of accidental contamination or injury from these materials cannot be eliminated. In the event of such an accident, we could be held liable for any damages that result and any such liability could exceed our resources.

Employees

As of February 28, 2002, we employed 238 individuals, including 69 holding doctoral or other advanced degrees. Our employees do not have a collective bargaining agreement. We consider our relations with our employees to be good.

Scientific Advisory Board and Clinical Advisors

We have a Scientific Advisory Board that consists of recognized scientists with expertise in the fields of immunology, cell and molecular biology, and synthetic and medical chemistry. Our Scientific Advisory Board meets with our management and key scientific employees on a semi-annual basis and in smaller groups or individually from time to time on an informal basis. The members assist us in identifying scientific and product development opportunities, reviewing with management the progress of our specific projects and recruiting and evaluating our scientific staff. We also have clinical advisors that assist us from time to time on clinical matters.

The following are members of our Scientific Advisory Board:

Lewis Cantley, Ph.D., is a noted authority in cellular biochemical signaling pathways that employ phosphatidyl inositol and its metabolites and is the discoverer of one of the most critical enzymes in those pathways, the PI3 Kinase. He is currently Professor of Cell Biology at Harvard Medical School and Chief of the Division of Signal Transduction in the Department of Medicine, Beth Israel Hospital, Boston and the author of over 180 publications.

Edward A. Dennis, Ph.D., is the Vice Chair of Medical Biochemistry at the University of California, San Diego. He is a noted authority on phospholipases, cell signaling and phospholipid metabolism. Dr. Dennis serves on the Scientific Advisory Board and Management Committee of, and chairs the Management Executive Board of, the Keystone Symposia. He sits on the Editorial Board of the Journal of Cellular Biochemistry and on the Publications Committee of the American Society for Biochemistry and Molecular Biology. He has authored over 185 manuscripts.

Edwin Krebs, M.D., is a Professor Emeritus, Department of Pharmacology and Biochemistry, at the University of Washington in Seattle and a Senior Investigator Emeritus at the Howard Hughes Medical Institute. He is a recognized authority on mechanisms of action of second messengers, including protein kinases and phosphorylation reactions. He is the recipient of numerous awards and honors and has authored 297 manuscripts. In 1992, Dr. Krebs was awarded the Nobel Prize in Physiology of Medicine for his work on second messenger pathways.

L. Jackson Roberts, II, M.D., is an internationally recognized authority on the oxidative metabolism of polyunsaturated fatty acids. He is known for having identified PGD2 on the major mast cell lipid mediator and, more recently, for having originated the field of studying non enzymatically- generated prostanoids, including the isprostanes and neuroprostanes. He is currently Professor of Pharmacology and Medicine at Vanderbilt University and is the author of over 170 publications.

The following are our retained Clinical Advisors:

E. Donnall Thomas, M.D., is the former Associate Director of Clinical Research and presently a Professor Emeritus at the Fred Hutchinson Cancer Research Center, of which he was a founding member. His research has spanned a wide array of fields from radiation biology to developmental immunology, and from cancer causing genes to gene transfer therapies. For his pioneering work in bone marrow transplant, Dr. Thomas was awarded the Nobel Prize for Medicine in 1990. Among the other honors awarded to Dr. Thomas in recognition of his medical research are the American Cancer Society Award for Distinguished Service in Basic Research and the Kettering Prize of the General Motors Cancer Research Foundation. He is a member of the U.S. Academy of Sciences.

Karen H. Antman, M.D., is the Chief of the Division of Medical Oncology, College of Physicians & Surgeons of Columbia University. Dr. Antman is an expert in emerging treatment strategies for solid tumors, notably breast cancer and sarcomas. From 1994 to 1995 she served as President of the American Society of Clinical Oncology. Since 1993, Dr. Antman has served on the Sarcoma Committee of the Southwest Oncology Groups, and has been its chairperson since 1995. From 1993 to 1994 she was program committee chair of the American Association for Cancer Research. She is on the editorial board of several prestigious journals, including Associate Editor of The New England Journal of Medicine.

Steven Soignet, M.D., is the Vice President and co-founder of the Arcus Group, a healthcare information consulting company. He held a faculty appointment in the Developmental Chemotherapy Service, Memorial Sloan-Kettering Cancer Center, and in the Department of Medicine, Cornell University Medical Center. Dr. Soignet's research primarily has focused on early phase clinical drug development in both hematologic and solid tumors. He is a member of the American College of Physicians, the American Association of Cancer Research, the American Society of Hematology, and the American Society of Clinical Oncology.

In addition to selected retained experts, an Ad Hoc advisory board approach has been taken by us to avail ourselves to the broadest expertise in a given oncologic disease. We have convened disease specific advisory boards in the U.S. as well as in Europe to take advantage of the differences in clinical practice as well as regulatory requirements between these different territories. This allows us to plan for registration of our drugs in multiple markets.

Factors Affecting Our Operating Results

This annual report on Form 10-K contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described below and elsewhere in this annual report on Form 10-K.

We may continue to incur net losses, and we may never achieve profitability.

We were incorporated in 1991 and have incurred a net operating loss every year. As of December 31, 2001, we had an accumulated deficit of approximately $290.6 million. We may never become profitable, even if we are able to commercialize additional products. We will need to conduct significant research, development, testing and regulatory compliance activities that, together with projected general and administrative expenses, we expect will result in

substantial increasing operating losses for at least the next several years. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis.

If we do not successfully develop additional products, we may be unable to generate additional revenue.

We have only one product, TRISENOX, for relapsed or refractory APL, that has received marketing approval to date. Our leading drug candidates, TRISENOX for other indications, PG-TXL and PG-CPT, are currently in clinical trials. These clinical trials of the drug candidates involve the testing of potential therapeutic agents, or effective treatments, in humans in three phases to determine the safety and efficacy of the drug candidates necessary for an approved drug. Many drugs in human clinical trials fail to demonstrate the desired safety and efficacy characteristics. Even if our drugs progress successfully through initial human testing, they may fail in later stages of development. A number of companies in the pharmaceutical industry, including us, have suffered significant setbacks in advanced clinical trials, even after reporting promising results in earlier trials. For example, in our first phase III human trial for lisofylline, completed in March 1998, we failed to meet our two primary endpoints, or goals, even though

we met our endpoints in two earlier phase II trials for lisofylline. As a result, we are no longer developing lisofylline as a potential product. In addition, data obtained from clinical trials are susceptible to varying interpretations. Government regulators and our collaborators may not agree with our interpretation of our future clinical trial results. The clinical trials of TRISENOX, PG-TXL and PG-CPT or any of our future drug candidates may not be successful.

Many of our drug candidates are still in research and preclinical development, which means that they have not yet been tested on humans. We will need to commit significant time and resources to develop these and additional product candidates. We are dependent on the successful completion of clinical trials and obtaining regulatory approval in order to generate revenues. The failure to generate such revenues may preclude us from continuing our research and development of these and other product candidates.

Even if our drug candidates are successful in clinical trials, we may not be able to successfully commercialize them.

Since our inception in 1991, we have dedicated substantially all of our resources to the research and development of our technologies and related compounds. With the exception of TRISENOX for relapsed or refractory APL, all of our compounds currently are in research or development, and none has been submitted for marketing approval. Our other compounds may not enter human clinical trials on a timely basis, if at all, and we may not develop any product candidates suitable for commercialization. Prior to commercialization, each product candidate will require significant additional research, development and preclinical testing and extensive clinical investigation before submission of any regulatory application for marketing approval. Potential products that appear to be promising at early stages of development may not reach the market for a number of reasons. Potential products may:

- be found ineffective or cause harmful side effects during preclinical testing or clinical trials,
- fail to receive necessary regulatory approvals,
- be difficult to manufacture on a large scale,
- be uneconomical to produce,
- fail to achieve market acceptance, or
- be precluded from commercialization by proprietary rights of third parties.

Our product development efforts or our collaborative partners' efforts may not be successfully completed and we may not obtain required regulatory approvals. Any products, if introduced, may not be successfully marketed nor achieve customer acceptance.

Because we based several of our drug candidates on unproven novel technologies, we may never develop them into commercial products.

We base many of our product candidates upon novel delivery technologies that we are using to discover and develop drugs for the treatment of cancer. This technology has not been proven. Furthermore, preclinical results in animal studies may not predict outcome in human clinical trials. Our product candidates may not be proven safe or effective. If this technology does not work, our drug candidates may not develop into commercial products.

We may not complete our clinical trials in the time expected, which could delay or prevent the commercialization of our products.

Although for planning purposes we forecast the commencement and completion of clinical trials, the actual timing of these events can vary dramatically due to factors such as delays, scheduling conflicts with participating clinicians and clinical institutions and the rate of patient enrollment. Clinical trials involving our product candidates may not commence nor be completed as forecasted. We have limited experience in conducting clinical trials. In certain circumstances we rely on academic institutions or clinical research organizations to conduct, supervise or monitor some or all aspects of clinical trials involving our products. In addition, certain clinical trials for our products will be conducted by government-sponsored agencies and consequently will be dependent on governmental participation and funding. We will have less control over the timing and other aspects of these clinical trials than if we conducted them entirely on our own. These trials may not commence or be completed as we expect. They may not be conducted successfully. Failure to commence or complete, or delays in, any of our planned clinical trials could delay or prevent the commercialization of our products and harm our business.

If we fail to adequately protect our intellectual property, our competitive position could be harmed.

Development and protection of our intellectual property are critical to our business. If we do not adequately protect our intellectual property, competitors may be able to practice our technologies. Our success depends in part on our ability to:

- obtain patent protection for our products or processes both in the United States and other countries,
- protect trade secrets, and
- prevent others from infringing on our proprietary rights.

In particular we believe that linking our polymers to existing drugs may yield patentable subject matter. We do not believe that our polymer-drug conjugates will infringe any third-party patents covering the underlying drug. However, we may not receive a patent for our polymer conjugates and we may be challenged by the holder of a patent covering the underlying drug.

The patent position of biopharmaceutical firms generally is highly uncertain and involves complex legal and factual questions. The U.S. Patent and Trademark Office has not established a consistent policy regarding the breadth of claims that it will allow in biotech patents. If it allows broad claims, the number and cost of patent interference proceedings in the U.S. and the risk of infringement litigation may increase. If it allows narrow claims, the risk of infringement may decrease, but the value of our rights under our patents, licenses and patent applications may also decrease.

Patent applications in which we have rights may never issue as patents and the claims of any issued patents may not afford meaningful protection for our technologies or products. In addition, patents issued to us or our licensors may be challenged and subsequently narrowed, invalidated or circumvented. Litigation, interference proceedings or other governmental proceedings that we may become involved in with respect to our proprietary technologies or the proprietary technology of others could result in substantial cost to us. Patent litigation is widespread in the biotechnology industry, and any patent litigation could harm our business. Costly litigation might be necessary to protect our orphan drug designations or patent position or to determine the

scope and validity of third party proprietary rights, and we may not have the required resources to pursue such litigation or to protect our patent rights. An

adverse outcome in litigation with respect to the validity of any of our patents could subject us to significant liabilities to third parties, require disputed rights to be licensed from third parties or require us to cease using a product or technology.

We also rely upon trade secrets, proprietary know-how and continuing technological innovation to remain competitive. Third parties may independently develop such know-how or otherwise obtain access to our technology. While we require our employees, consultants and corporate partners with access to proprietary information to enter into confidentiality agreements, these agreements may not be honored.

If any of our license agreements for intellectual property underlying TRISENOX, PG-TXL or any other product are terminated, we may lose our rights to develop or market that product.

Patents issued to third parties may cover our products as ultimately developed. We may need to acquire licenses to these patents or challenge the validity of these patents. We may not be able to license any patent rights on acceptable terms or successfully challenge such patents. The need to do so will depend on the scope and validity of these patents and ultimately on the final design or formulation of the products and services that we develop.

We have licensed intellectual property, including patent applications from Memorial Sloan Kettering Cancer Institute, Samuel Waxman Cancer Research Foundation, Beijing Medical University and others, including the intellectual property underlying TRISENOX. We have also in-licensed the intellectual property relating to our polymer drug delivery technology, including PG-TXL. Some of our product development programs depend on our ability to maintain rights under these licenses. Each licensor has the power to terminate its agreement with us if we fail to meet our obligations under that license. We may not be able to meet our obligations under these licenses. If we default under any of these license agreements, we may lose our right to market and sell any products based on the licensed technology.

Our products could infringe on the intellectual property rights of others, which may cause us to engage in costly litigation and, if we are not successful, could cause us to pay substantial damages and prohibit us from selling our products.

Although we attempt to monitor the patent filings of our competitors in an effort to guide the design and development of our products to avoid infringement, third parties may challenge the patents that have been issued or licensed to us. We may have to pay substantial damages, possibly including treble damages, for past infringement if it is ultimately determined that our products infringe a third party's patents. Further, we may be prohibited from selling our products before we obtain a license, which, if available at all, may require us to pay substantial royalties. Even if infringement claims against us are without merit, defending a lawsuit takes significant time, may be expensive and may divert management attention from other business concerns.

Our limited operating experience may cause us difficulty in managing our growth and could seriously harm our business.

As a result of additional trials for TRISENOX for indications other than relapsed or refractory APL and clinical trials currently underway for PG-TXL and our other products in development, we will need to expand our operations in various areas, including our management, regulatory, clinical, financial and information systems and other elements of our business process infrastructure. We expect to add additional key personnel in these areas in the near future. In addition, if rapid growth occurs, it may strain our operational, managerial and financial resources. We will not be able to increase revenues or control

costs unless we continue to improve our operational, financial, regulatory and managerial systems and processes, and expand, train and manage our work force.

If we fail to keep pace with rapid technological change in the biotechnology and pharmaceutical industries, our products could become obsolete.

Biotechnology and related pharmaceutical technology have undergone and are subject to rapid and significant change. We expect that the technologies associated with biotechnology research and development will continue to develop rapidly. Our future will depend in large part on our ability to maintain a competitive position with respect to these technologies. Any compounds, products or processes that we develop may become obsolete before we recover any expenses incurred in connection with developing these products.

We face direct and intense competition from our rivals in the biotechnology and pharmaceutical industries and we may not compete successfully against them.

The biotechnology and pharmaceutical industries are intensely competitive. We have numerous competitors in the United States and elsewhere. Our competitors include major, multinational pharmaceutical and chemical companies, specialized biotechnology firms and universities and other research institutions. Many of these competitors have greater financial and other resources, larger research and development staffs and more effective marketing and manufacturing organizations, than we do. In addition, academic and government institutions have become increasingly aware of the commercial value of their research findings. These institutions are now more likely to enter into exclusive licensing agreements with commercial enterprises, including our competitors, to market commercial products.

Our competitors may succeed in developing or licensing technologies and drugs that are more effective or less costly than any we are developing. Our competitors may succeed in obtaining FDA or other regulatory approvals for drug candidates before we do. In particular, we face direct competition from many companies focusing on delivery technologies. Drugs resulting from our research and development efforts, if approved for sale, may not compete successfully with our competitors' existing products or products under development.

We may need to raise additional funds in the future, and they may not be available on acceptable terms, or at all.

We expect that our existing capital resources and the interest earned thereon will enable us to maintain our current and planned operations until 2004. Beyond that time, if our capital resources are insufficient to meet future capital requirements, we will have to raise additional funds to continue the development of our technologies and complete the commercialization of products, if any, resulting from our technologies. We will require substantial funds to: (1) continue our research and development programs, (2) in-license or acquire additional technologies and (3) conduct preclinical studies and clinical trials. We may need to raise additional capital to fund our operations repeatedly. We may raise such capital through public or private equity financings, partnerships, debt financings, bank borrowings, or other sources. Our capital requirements will depend upon numerous factors, including the following:

- the establishment of additional collaborations,
- the development of competing technologies or products,
- changing market conditions,

- the cost of protecting our intellectual property rights,
- the purchase of capital equipment,
- the progress of our drug discovery and development programs, the progress of our collaborations and receipt of any option/license, milestone and royalty payment resulting from those collaborations, and
- in-licensing and acquisition opportunities.

Additional funding may not be available on favorable terms or at all. If adequate funds are not otherwise available, we may curtail operations significantly. To obtain additional funding, we may need to enter into arrangements that require us to relinquish rights to certain technologies, drug

candidates, products and/or potential markets. To the extent that additional capital is raised through the sale of equity, or securities convertible into equity, you may experience dilution of your proportionate ownership of the company.

Our stock price is extremely volatile, which may affect our ability to raise capital in the future.

The market price for securities of biopharmaceutical and biotechnology companies, including that of ours, historically has been highly volatile, and the market from time to time has experienced significant price and volume fluctuations that are unrelated to the operating performance of such companies. For example, during the twelve months ended December 31, 2001, our stock price has ranged from a low of $12.50 to a high of $49.00. Fluctuations in the trading price or liquidity of our common stock may adversely affect our ability to raise capital through future equity financings.

Factors that may have a significant impact on the market price and marketability of our common stock include:

- announcements of technological innovations or new commercial therapeutic products by us, our collaborative partners or our present or potential competitors,
- our quarterly operating results,
- announcements by us or others of results of preclinical testing and clinical trials,
- developments or disputes concerning patent or other proprietary rights,
- developments in our relationships with collaborative partners,
- acquisitions,
- litigation,
- adverse legislation, including changes in governmental regulation and the status of our regulatory approvals or applications,
- third-party reimbursement policies,
- changes in securities analysts' recommendations,

- changes in health care policies and practices,
- economic and other external factors, and
- general market conditions.

In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been instituted. If a securities class action suit is filed against us, we would incur substantial legal fees and our management's attention and resources would be diverted from operating our business in order to respond to the litigation.

We may be unable to attain the raw materials necessary to produce our PG-TXL product candidate in sufficient quantity to meet demand when and if such product is approved.

Paclitaxel is derived from certain varieties of yew trees. Supply of yew trees is tightly controlled by a limited number of companies. We cannot be sure that we will be able to continue to purchase the materials necessary to produce PG-TXL in adequate volume and quality. We purchase the majority of the paclitaxel we need from a single vendor. Should the paclitaxel purchased from this source prove to be insufficient in quantity or quality, or should this relationship terminate, there can be no assurance that we will be able to enter into a similar agreement with an alternate source.

Our dependence on third party manufacturers means that we may not have sufficient control over the manufacture of our products.

We currently do not have internal facilities for the manufacture of any of our products for clinical evaluation or commercial production. In addition, TRISENOX, our first commercial product, is currently manufactured by a single vendor. We will need to develop additional manufacturing resources, enter into collaborative arrangements with other parties that have established manufacturing capabilities or elect to have other third parties manufacture our products on a contract basis. We are dependent on such collaborators or third parties to supply us in a timely way with products manufactured in compliance with standards imposed by the FDA and foreign regulatory authorities. The manufacturing facilities of contract manufacturers may not comply with applicable manufacturing regulations of the FDA nor meet our requirements for quality, quantity or timeliness. Another of our products under development, PG-TXL, is complex to manufacture, which may prevent us from obtaining a sufficient supply for the increased clinical trials that are currently planned or underway.

We may face difficulties in achieving acceptance of our products in the market if we do not continue to expand our sales and marketing infrastructure.

We currently are marketing TRISENOX with our direct sales force. Because the oncology market is highly concentrated and many prospective clients are unfamiliar with TRISENOX, we will need to continue to expand our sales and marketing infrastructure in order to increase market awareness of this product. We are in the process of expanding our direct sales force, and currently require additional qualified sales personnel. Competition for these individuals is intense, and we may not be able to hire the experience required and number of sales personnel we need. In addition, if we market and sell products other than TRISENOX, we would need to further expand our marketing and sales force with sufficient technical expertise and distribution capacity. If we are unable to continue to expand our direct sales operations and train new sales personnel as rapidly as necessary, we may not be able to increase market awareness and sales of our products, which may prevent us from growing our revenues and achieving and maintaining profitability.

If we lose our key personnel or are unable to attract and retain additional personnel, we may be unable to pursue collaborations or develop our own products.

We are highly dependent on Dr. James A. Bianco, our Chief Executive Officer, and Dr. Jack Singer, our Executive Vice President, Research Program Chairman. The loss of these principal members of our scientific or management staff, or failure to attract or retain other key scientific personnel employees, could prevent us from pursuing collaborations or developing our products and core technologies. Recruiting and retaining qualified scientific personnel to perform research and development work are critical to our success. There is intense competition for qualified scientists and managerial personnel from numerous pharmaceutical and biotechnology companies, as well as from academic and government organizations, research institutions and other entities. In addition, we rely on consultants and advisors, including our scientific and clinical advisors, to assist us in formulating our research and development strategy. All of our consultants and advisors are employed by other employers or are self-employed, and have commitments to or consulting or advisory contracts with other entities that may limit their availability to us.

We are subject to extensive government regulation, including the requirement of approval before our products may be marketed.

The FDA has approved only one of our products, TRISENOX, for sale in the United States, for relapsed or refractory APL. Before we can market TRISENOX for other indications, we must obtain FDA approval. Our other products are in development, and will have to be approved by the FDA before they can be marketed in the United States. If the FDA does not approve our products and any additional indications for marketed products in a timely fashion, or does not approve them at all, our business and financial condition may be adversely affected.

In addition, we and our products are subject to comprehensive regulation by the FDA both before and after products are approved for marketing. The FDA regulates, for example, research and development, including preclinical and clinical testing, safety, effectiveness, manufacturing, labeling, advertising,

promotion, export, and marketing of our products. Our failure to comply with regulatory requirements may result in various adverse consequences including FDA delay in approving or refusal to approve a product, recalls, withdrawal of an approved product from the market, and/or the imposition of civil or criminal sanctions.

Because there is a risk of product liability associated with our products, we face potential difficulties in obtaining insurance.

Our business exposes us to potential product liability risks inherent in the testing, manufacturing and marketing of human pharmaceutical products, and we may not be able to avoid significant product liability exposure. While we have insurance covering product use in our clinical trials, and currently have product liability insurance for TRISENOX, it is possible that we will not be able to maintain such insurance on acceptable terms or that any insurance obtained will provide adequate coverage against potential liabilities. Our inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could prevent or limit the commercialization of any products we develop. A successful product liability claim in excess of our insurance coverage could exceed our net worth.

Uncertainty regarding third party reimbursement and health care cost containment initiatives may limit our returns.

The ongoing efforts of governmental and third party payors to contain or reduce the cost of health care will affect our ability to commercialize our products successfully. Governmental and other third party payors are increasingly attempting to contain health care costs by:

- challenging the prices charged for health care products and services,
- limiting both coverage and the amount of reimbursement for new therapeutic products,
- denying or limiting coverage for products that are approved by the FDA but are considered experimental or investigational by third-party payors, and
- refusing in some cases to provide coverage when an approved product is used for disease indications in a way that has not received FDA marketing approval.

In addition, the trend toward managed health care in the United States, the growth of organizations such as health maintenance organizations, and legislative proposals to reform healthcare and government insurance programs could significantly influence the purchase of healthcare services and products, resulting in lower prices and reducing demand for our products.

Even if we succeed in bringing any of our proposed products to the market, they may not be considered cost-effective and third party reimbursement might not be available or sufficient. If adequate third party coverage is not available, we may not be able to maintain price levels sufficient to realize an appropriate return on our investment in research and product development. In addition, legislation and regulations affecting the pricing of pharmaceuticals may change in ways adverse to us before or after any of our proposed products are approved for marketing. While we cannot predict whether any such legislative or regulatory proposals will be adopted, the adoption of such proposals could make it difficult or impossible to sell our products. TRISENOX has been reimbursed by third party payors, but there is no guarantee this reimbursement will continue.

Since we use hazardous materials in our business, we may be subject to claims relating to improper handling, storage or disposal of these materials.

Our research and development activities involve the controlled use of hazardous materials, chemicals and various radioactive compounds. We are subject to federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of such materials and certain waste products. Although we believe that our safety procedures for handling and disposing of such materials comply with the standards prescribed by state and federal regulations, the risk of accidental contamination or injury from these materials cannot be eliminated completely. In the event of such an accident, we could be

held liable for any damages that result and any such liability not covered by insurance could exceed our resources. Compliance with environmental laws and regulations may be expensive, and current or future environmental regulations may impair our research, development or production efforts.

We may not be able to conduct animal testing in the future which could harm our research and development activities.

Certain of our research and development activities involve animal testing. Such activities have been the subject of controversy and adverse publicity. Animal rights groups and other organizations and

individuals have attempted to stop animal testing activities by pressing for legislation and regulation in these areas. To the extent the activities of these groups are successful, our business could be materially harmed by delaying or interrupting our research and development activities.

Because our charter documents contain certain anti-takeover provisions and we have a rights plan, it may be more difficult for a third party to acquire us, and the rights of some shareholders could be adversely affected.

Our Restated Articles of Incorporation and Bylaws contain provisions that may make it more difficult for a third party to acquire or make a bid for us. These provisions could limit the price that certain investors might be willing to pay in the future for shares of our common stock. In addition, shares of our preferred stock may be issued in the future without further shareholder approval and upon such terms and conditions and having such rights, privileges and preferences, as the board of directors may determine. The rights of the holders of common stock will be subject to, and may be adversely affected by, the rights of any holders of preferred stock that may be issued in the future. The issuance of preferred stock, while providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from acquiring, a majority of our outstanding voting stock. We have no present plans to issue any additional shares of preferred stock. In addition, we have adopted a shareholder rights plan that, along with certain provisions of our Restated Articles of Incorporation, may have the effect of discouraging certain transactions involving a change of control of the company.

Item 2. Properties

We lease approximately 66,000 square feet of space at 201 Elliott Avenue West in Seattle, Washington for our laboratory and administrative operations. The lease expires in January 2003, with two consecutive five-year renewal options at the then prevailing market rent. We also lease approximately 110,000 square feet of space at 501 Elliott Avenue West in Seattle, Washington for executive offices and administrative operations. The lease expires July 2012. To accommodate the operational requirements of Cell Therapeutics (UK) Limited, our wholly-owned, London-based subsidiary, we leased space at 100 Fetter Lane in London, UK and have additional offices at 100 Pall Mall, St. James in London, UK. We believe our existing and planned facilities are adequate to meet our present requirements. We currently anticipate that additional space will be available to us, when needed, on commercially reasonable terms.

Item 3. Legal Proceedings

We are not a party to any material legal proceedings.

Item 4. Submission of Matters to a Vote of Security Holders

No matters were submitted to a vote of security holders during the fourth quarter of the year ended December 31, 2001.

PART II

Item 5. Market for Registrant's Common Equity and Related Shareholder Matters

Our common stock is traded on the Nasdaq National Market under the symbol "CTIC." The following table sets forth, for the periods indicated, the high and low reported sales prices per share of the common stock as reported on the Nasdaq National Market.

	High	Low
2000		
First Quarter	$ 52.00	$ 5.31
Second Quarter	33.50	10.50
Third Quarter	68.25	26.38
Fourth Quarter	77.25	30.50
2001		
First Quarter	49.00	12.50
Second Quarter	34.81	14.50
Third Quarter	32.63	20.18
Fourth Quarter	34.70	22.50
2002		
First Quarter (through March 26, 2002)	27.45	19.31

On March 26, 2002, the last reported sale price of our common stock on the Nasdaq Market was $25.05 per share. As of March 26, 2002, there were approximately 278 shareholders of record of our common stock.

Dividend Policy

We have not declared or paid any cash dividends on our capital stock since our inception. We currently intend to retain all of our cash and any future earnings to finance the growth and development of our business and therefore do not anticipate paying any cash dividends in the foreseeable future. Any future determination to pay cash dividends will be at the discretion of the Board of Directors and will be dependent upon our financial condition, results of operations, capital requirements and such other factors as the Board of Directors deems relevant.

Item 6. Selected Consolidated Financial Data

The data set forth below should be read in conjunction with Item 7. "--Management's Discussion and Analysis of Financial Condition and Results of Operations" and the Consolidated Financial Statements and Notes thereto appearing at Item 8 of this report.

	Year ended December 31,				
	2001	2000	1999	1998	1997
	(In thousands, except per share data)				
Consolidated Statements of Operations Data:					
Revenues:					
Product sales	$ 6,130	$ 502	$ --	$ --	$ --
Collaboration agreements	--	--	--	13,200	11,831
License revenue	106	--	--	--	--
Total revenues	6,236	502	--	13,200	11,831
Operating expenses:					
Cost of product sold	394	19	--	--	--
Research and development (1)	44,669	26,574	27,682	29,942	27,285
General and administrative .	21,863	14,770	9,788	10,889	10,090
Sales and marketing	13,405	5,651	--	--	--
Amortization of purchased intangibles	9,390	9,390	--	--	--
Total operating expenses .	89,721	56,404	37,470	40,831	37,375
Loss from operations	(83,485)	(55,902)	(37,470)	(27,631)	(25,544)
Other income (expense):					

Investment income	9,200	4,517	1,692	3,094	2,895
Interest expense	(5,988)	(544)	(502)	(435)	(377)
Net loss	(80,273)	(51,929)	(36,280)	(24,972)	(23,026)
Preferred stock dividend	(1,372)	(508)	(5,201)	--	--
Net loss applicable to common shareholders	$(81,645)	$(52,437)	$(41,481)	$(24,972)	$(23,026)
Basic and diluted net loss per common share (2)	$ (2.41)	$ (2.07)	$ (2.67)	$ (1.62)	$ (1.98)
Shares used in computation of basic and diluted net loss per common share	33,822	25,345	15,552	15,410	11,634

	December 31,				
	2001	2000	1999	1998	1997
	(In thousands)				
Consolidated Balance Sheets Data:					
Cash, cash equivalents, securities available-for-sale and interest receivable	$ 259,421	$ 156,434	$ 24,248	$ 47,072	$ 70,444
Working capital	250,142	146,384	17,705	44,143	67,594
Total assets	303,750	190,111	30,848	58,156	80,433
Convertible subordinated notes	175,000	--	--	--	--
Other long-term obligations, less	3,892	1,060	2,653	3,888	2,039
Total long-term obligations, less current portion	178,892	1,060	2,653	3,888	2,039
Accumulated deficit	(290,552)	(210,279)	(158,350)	(122,070)	(97,098)
Total shareholders' equity	109,557	177,943	20,904	47,165	71,760

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(1) This includes an equity-based expense of $9.2 million related to the issuance of 350,000 warrants for the achievement of a PG-TXL milestone in 2001.

(2) See Notes 1 and 10 of Notes to Consolidated Financial Statements for a description of the computation of the number of shares and net loss per common share.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion should be read in conjunction with the "Selected Financial Data" and the Consolidated Financial Statements and the related Notes included in Items 6 and 8 of this Form 10-K. The following discussion contains forward-looking statements that involve risks and uncertainties. Such statements, which include statements concerning research and development expenses, general and administrative expenses, additional financings and additional losses, are subject to risks and uncertainties, including, but not limited to, those discussed below and elsewhere in this Form 10-K, particularly in "Factors Affecting Our Operating Results," that could cause actual results to differ significantly from those projected.

Overview

We develop, acquire and commercialize novel treatments for cancer. Our goal is to build a leading, vertically-integrated biopharmaceutical company with a diversified portfolio of proprietary oncology drugs. Our research and in-licensing activities are concentrated on identifying new, less toxic and more effective ways to treat cancer.

In September 2000, we received approval of our New Drug Application, or NDA, by the Food and Drug Administration, or FDA, for TRISENOX (arsenic trioxide), and commenced initial product sales for TRISENOX of $502,000 in the fourth quarter of 2000, and $6.1 million for the year ended December 31, 2001. As of December 31, 2001, we had incurred aggregate net losses of approximately $290.6 million since inception. We expect to continue to incur significant additional operating losses over the next several years from our research and

development efforts. Operating losses may fluctuate from quarter to quarter as a result of differences in the timing of expenses incurred and revenues recognized.

In June 1998, we entered into an agreement with PG-TXL Company, L.P. and scientists at the M.D. Anderson Cancer Center, granting us an exclusive worldwide license to the rights to PG-TXL, and to all potential uses of PG-TXL's polymer technology. Under the terms of the agreement, we will fund the research, development, manufacture, marketing and sale of drugs developed using PG-TXL's polymer technology.

In January 2000, we acquired TRISENOX upon our acquisition of PolaRx Biopharmaceuticals, Inc., or PolaRx, a single product company that owned the rights to TRISENOX. The aggregate purchase price of approximately $36.2 million consisted primarily of 5 million shares of common stock and included assumed net liabilities of $3.9 million from PolaRx. Two additional payouts tied to sales thresholds of $10 million and $20 million in any four consecutive quarters, may be payable in tranches of $4 million and $5 million at the then fair market value of our stock, at the time such thresholds are achieved. For any calendar year that sales of TRISENOX exceed $40 million, PolaRx shareholders will receive a 2% royalty on total net sales for that year at the then fair market value of our common stock or, in certain circumstances, cash. The acquisition was accounted for as a purchase transaction.

In October 2001, we entered into a licensing agreement with Chugai Pharmaceutical Co., Ltd. for the development and commercialization of PG-TXL. This agreement grants an exclusive license to Chugai to develop and commercialize PG-TXL in several Asian markets. Upon execution of the agreement, Chugai paid us a $3.0 million initial payment, which has been recorded as deferred revenue and is being recognized as license revenue over the development period on a straight-line basis. Under the agreement, we may also receive milestone payments totaling up to $16.0 million upon Chugai's achievement of certain product development milestones, and we are entitled to receive royalties on product sales in the territories covered

under the agreement. Chugai has also committed to incur up to $54 million in development expenditures over the course of the licensing agreement.

We entered into a supply agreement with Natural Pharmaceuticals, Inc. for paclitaxel, a key starting material for our PG-TXL drug candidate. Under the supply agreement, we purchased paclitaxel at a pre-determined price and will receive supply over a multi-year term.

Critical Accounting Policies

In December 2001, the SEC requested that all registrants discuss their most "critical accounting policies" in management's discussion and analysis of financial condition and results of operations. The SEC indicated that a "critical accounting policy" is one which is both important to the portrayal of the company's financial condition and results and requires management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. While our significant accounting policies are more fully described in Note 1 to our consolidated financial statements included in this report, we believe the following accounting policies to be critical:

License Agreement Revenues

We may generate revenue from technology licenses, collaborative research and development arrangements, and cost reimbursement contracts. Revenue under technology licenses and collaborative agreements typically consists of nonrefundable and/or guaranteed technology license fees, collaborative research funding, and various milestone and future product royalty or profit-sharing payments.

Revenue associated with up-front license fees, and research and development funding payments under collaborative agreements is recognized ratably over the relevant periods specified in the agreement, generally the research and development period. Revenue from substantive at-risk milestones and future product royalties is recognized as earned based on the completion of the milestones and product sales, as defined in the respective agreements. Revenue

under cost reimbursement contracts is recognized as the related costs are incurred. Payments received in advance of recognition as revenue are recorded as deferred revenue.

Product Sales

We recognize revenue from product sales when there is persuasive evidence that an arrangement exists, delivery has occurred, the price is fixed and determinable, and collectibility is reasonably assured. Product sales are recorded net of an allowance for returns and discounts. Allowances for discounts, returns and bad debts are netted against accounts receivable.

Inventory

Inventory is stated at the lower of cost or market. Cost is determined using a weighted-average approach which approximates the first-in first-out method. Finished goods inventory consists of our FDA-approved pharmaceutical drug, TRISENOX. Prior to FDA approval, the raw material and production costs of TRISENOX were recorded as research and development expense. If the cost of the inventory exceeds the expected market value, provisions are recorded currently for the difference between the cost and the market value. We also record an allowance for excess inventory that may expire and become unsaleable.

Research and Development Expenses

Research and development expenses include related salaries, contractor fees, occupancy costs, utilities, administrative expenses and allocation of corporate costs. Research and development expenses consist of costs incurred for proprietary and collaboration research and development and also include activities such as product registries and investigator sponsored trials. All such costs are charged to research and development expenses as incurred. Costs of materials and other supplies are charged to research and development expense when they have been received.

Derivative Financial Instruments

Effective at the beginning of fiscal 2001, we adopted SFAS 133, Accounting for Derivative Instruments and Hedging Activities, as amended. We are subject to risks associated with fluctuations in the LIBOR interest rate from lease payments on our aircraft. Our policy is to hedge a portion of these forecasted transactions through an interest rate swap agreement. This swap agreement has been designated as a cash flow hedge. The portion of the net gain or loss on the derivative instrument that is effective as a hedge is reported as a component of accumulated other comprehensive loss in shareholders' equity and is reclassified into earnings in the same period during which the hedged transaction affects earnings. The remaining net gain or loss on the derivative in excess of the present value of the expected cash flows of the hedged transaction is recorded in earnings immediately. If a derivative does not qualify for hedge accounting, or a portion of the hedge is deemed ineffective, the change in fair value is recorded in earnings. The swap was perfectly effective at December 31, 2001. We do not enter into forward agreements for trading purposes.

Results of Operations

Years ended December 31, 2001 and 2000.

Product sales. In October 2000, we launched TRISENOX, a pharmaceutical grade arsenic product that has been approved by the FDA to treat patients with relapsed or refractory acute promyelocytic leukemia. We sell TRISENOX primarily to pharmaceutical wholesalers and oncology distributors, who in turn sell TRISENOX primarily to hospitals and clinics. We recorded net product sales of approximately $6.1 million for TRISENOX for the year ended December 31, 2001 compared to the initial net product sales of approximately $502,000 for TRISENOX in the fourth quarter of 2000.

License revenue. In October 2001, we entered into a licensing agreement with Chugai Pharmaceutical Co., Ltd. for the development and commercialization of PG-TXL. Upon execution of the agreement, Chugai paid us a $3.0 million initial payment, which we recorded as deferred revenue and which is being recognized as revenue over the development period on a straight-line basis. We recognized $106,000 of revenue during 2001.

Cost of product sold. The cost of product sold for the year ended December 31, 2001 was approximately $394,000 compared to $19,000 for the fourth quarter of 2000. This increase was primarily due to the additional product sales in 2001. Further, a reserve for obsolescence of approximately $96,000 was incurred in 2001. Royalty costs were included in cost of product sold in 2001 and 2000. Prior to FDA approval, the raw material and production costs of TRISENOX were recorded as research and development expense. We expect product costs in the future to continue to approximate a small percentage of revenue.

Research and development. Our research and development expenses for compounds under development and discovery research are as follows (in thousands):

	2001	2000
Compounds under development		
PG - compounds	$20,480	$ 5,247
Trisenox	3,244	4,829
Other compounds	710	1,111
Operating expenses	10,428	6,621
Discovery research	9,807	8,766
Total research and development expenses	$44,669	$26,574

Costs for compounds under development include external direct expenses such as principal investigator fees, clinical research organization charges and contract manufacturing fees incurred for preclinical, clinical, manufacturing and regulatory activities associated with preparing the compounds for submissions of new drug applications to the FDA or similar regulatory filings with agencies outside the U.S. Operating costs include our personnel and occupancy expenses associated with developing these compounds. Discovery research costs include primarily personnel, occupancy, and laboratory expenses associated with the discovery and identification of new drug targets and lead compounds. We do not allocate operating costs to the individual compounds.

Research and development expenses increased to approximately $44.7 million for the year ended December 31, 2001 from approximately $26.6 million for the year ended December 31, 2000. This increase is primarily due to an equity-based expense of $9.2 million related to the vesting of 350,000 warrants upon the achievement of a PG-TXL milestone, an additional $6.0 million in direct expenses associated with the development of PG-TXL and PG-CPT, the recruitment of additional personnel and related occupancy costs of $5.0 million to support our expanded development plans for TRISENOX, PG-TXL and PG-CPT. This increase was offset in part by a reduction of stock-based compensation of $1.4 million and regulatory costs for TRISENOX of $1.1 million. We anticipate increased research and development expenses in connection with the clinical development plans for TRISENOX, PG-TXL, PG-CPT and our other products.

Our leading drug candidates, PG-TXL and TRISENOX for indications other than relapsed or refractory acute promyelocytic leukemia, are currently in clinical trials. Many drugs in human clinical trials fail to demonstrate the desired safety and efficacy characteristics. Even if our drugs progress successfully through initial human testing, they may fail in later stages of development. A number of companies in the pharmaceutical industry, including us, have suffered significant setbacks in advanced clinical trials, even after reporting promising results in earlier trials. Many of our drug candidates are still in research and preclinical development, which means that they have not yet been tested on humans. We will need to commit significant time and resources to develop these and additional product candidates. We are dependent on the successful completion of clinical trials and obtaining regulatory approval in order to generate revenues. The failure to generate such revenues may preclude us from continuing our research and development of these and other product candidates. Because of these risks and uncertainties, we cannot predict when or whether we will successfully complete the development of our product candidates or the ultimate product development cost.

General and administrative. General and administrative expenses increased to approximately $21.9 million for the year ended December 31, 2001 from approximately $14.8 million for the year ended December 31, 2000. This increase

reflects higher corporate resource development costs of approximately

$4.9 million and additional general operating expenses associated with supporting our research, development and marketing activities of approximately $4.0 million. Corporate resource development costs include our business development activities related to our continued pursuit to in-license or acquire complementary products or technologies, or companies, costs related to operating our aircraft, and our corporate communication programs. Offsetting these increases were lower stock-based compensation charges of $1.8 million. We expect general and administrative expenses to increase in the future to support our expected increase in research, development and commercialization efforts. Additionally, due to the variable accounting treatment of certain stock options, fluctuations in quoted prices for our common stock may result in unpredictable and potentially significant charges or credits to our stock-based compensation.

Sales and marketing. We incurred approximately $13.4 million of sales and marketing expense for the year ended December 31, 2001 compared to $5.7 million for the year ended December 31, 2000. This increase is primarily due to higher staffing levels and marketing costs to support the launch of TRISENOX. We expect sales and marketing expenses to continue to increase in 2002.

Amortization of purchased intangibles. In January 2000, we acquired PolaRx Biopharmaceuticals, Inc. which was accounted for using the purchase method of accounting. We recorded acquired intangible assets for marketing, patents and goodwill aggregating $36.2 million. These intangible assets are amortized over their remaining lives, estimated to be three to five years. The amortization for the year ended December 31, 2001 and 2000 was approximately $9.4 million. Effective January 1, 2002, we will adopt SFAS 142 Goodwill and Other Intangible Assets. In accordance with this statement, goodwill will no longer be amortized and will be periodically tested for impairment.

Investment income. Investment income increased to approximately $9.2 million for the year ended December 31, 2001 from approximately $4.5 million for the year ended December 31, 2000. This increase is attributed to higher average cash balances on hand during 2001 because we completed a secondary offering in September 2000, which generated net proceeds of $127.5 million and we completed a convertible debt offering in September 2001, which generated net proceeds of $168.0 million.

Interest expense. Interest expense increased to approximately $6.0 million for the year ended December 31, 2001 from approximately $544,000 for the year ended December 31, 2000. The increase is attributable to the interest associated with the $175.0 million of 5.75% convertible subordinated notes issued in 2001.

Preferred stock dividend. We accrued approximately $1.4 million and $508,000 for a preferred stock dividend for the years ended December 31, 2001 and 2000, respectively, in connection with preferred stock issued in November 1999. We are required to pay each Series D preferred stock investor four annual dividend payments notwithstanding any conversion of the preferred stock. In 2001, we automatically converted any remaining preferred stock to common stock. In connection with this conversion, we accrued all future dividend payments due to these investors resulting in an increase of approximately $0.9 million in the preferred stock dividend for the year ended December 31, 2001. In 2001, we issued 20,785 shares of common stock valued at approximately $500,000 in lieu of cash as a payment of our preferred stock dividend obligation.

Years ended December 31, 2000 and 1999.

Product sales. In October 2000, we launched TRISENOX, a pharmaceutical grade arsenic product that has been approved by the FDA to treat patients with relapsed or refractory acute

promyelocytic leukemia. We recorded initial net product sales of approximately $502,000 for TRISENOX in the fourth quarter of 2000.

Cost of product sold. The cost of product sold during the fourth quarter of 2000 was approximately $19,000. Prior to FDA approval, the raw material and

production costs of TRISENOX were recorded as research and development expense.

Research and development. Our research and development expenses for compounds under development and discovery research are as follows (in thousands):

	2000	1999
Compounds under development		
PG - compounds	$ 5,247	$ 4,542
Trisenox	4,829	--
Other compounds	1,111	6,360
Operating expenses	6,621	8,488
Discovery research	8,766	8,292
Total research and development expenses	$26,574	$27,682

Research and development expenses decreased to approximately $26.6 million for the year ended December 31, 2000 from approximately $27.7 million for the year ended December 31, 1999. The decrease in direct expenses for other compounds and the related decrease in operating expenses are attributed primarily to our discontinuing the development of Lisofylline. These decreases were offset in part by our incurring development expenses associated with TRISENOX (a compound we purchased via the acquisition of PolaRx in January, 2000) and PG-TXL which include a $2.0 million milestone payment under our license agreement with PG-TXL Company, L.P.

General and administrative. General and administrative expenses increased to approximately $14.8 million for the year ended December 31, 2000 from approximately $9.8 million for the year ended December 31, 1999. The increase reflects approximately $3.3 million in stock-based compensation expense for our consultants and operating expenses associated with supporting our research, development and marketing activities of approximately $1.7 million.

Sales and marketing. We expensed approximately $5.7 million in our sales and marketing effort for the year ended December 31, 2000 as we launched TRISENOX in October 2000.

Amortization of purchased intangibles. In January 2000, we acquired PolaRx Biopharmaceuticals, Inc. that was accounted for using the purchase method of accounting. We recorded acquired intangible assets for marketing, patents and goodwill aggregating $36.2 million. These intangible assets are amortized over their remaining lives, estimated to be three to five years. The amortization for the year ended December 31, 2000 was approximately $9.4 million.

Investment income. Investment income increased to approximately $4.5 million for the year ended December 31, 2000 from approximately $1.7 million for the year ended December 31, 1999. This increase is attributed to higher average cash balances on hand during 2000 because we completed a private placement and secondary offering in 2000 that generated net proceeds of approximately $164.6 million.

Interest expense. Interest expense increased to approximately $544,000 for the year ended December 31, 2000 from approximately $502,000 for the year ended December 31, 1999. This increase

was due primarily to interest payments made to PolaRx shareholders on notes payable assumed upon the PolaRx acquisition.

Preferred stock dividend. We accrued approximately $508,000 for a preferred stock dividend for the year ended December 31, 2000 in connection with preferred stock issued in November 1999. In 2000, we issued 6,366 shares of common stock valued at approximately $425,000 in lieu of cash as a payment of our preferred stock dividend obligation.

Liquidity and Capital Resources

As of December 31, 2001, we had $259.4 million in cash, cash equivalents, securities available-for-sale and interest receivable.

Net cash used in operating activities increased to $61.9 million in 2001, compared to $36.0 million in 2000 and $30.0 million in 1999. The increase in net cash used in operating activities in 2001, as compared to 2000, was primarily due to the increase in our net loss, offset in part by an increase in equity-based compensation. The increase in net cash used in operating activities in 2000, as compared to 1999, was primarily due to the increase in our net loss.

We expect net cash used in operating activities to increase in 2002. The extent of cash flow used in operating activities will be significantly affected by our expanded development plans for TRISENOX, PG-TXL, and PG-CPT.

Net cash used in investing activities totaled $92.7 million in 2001, compared to $113.9 million in 2000 and net cash provided of $22.9 million in 1999. The decrease in net cash used in investing activities in 2001, as compared to 2000, was primarily due to a lower level of net additional investments in securities available for sale during 2001. The increase in net cash used in investing activities in 2000, as compared to net cash provided by investing activities in 1999, was primarily due to a net increase in purchases of securities available-for-sale.

Net cash provided by financing activities increased to approximately $169.6 million in 2001, compared to $168.0 million in 2000 and $8.4 million in 1999. In 2001, we received net proceeds of $168.0 million from the issuance of 5.75% convertible subordinated notes as compared to two equity offerings in 2000 that provided $164.6 million in net proceeds. These notes are due June 15, 2008 with interest payable semi-annually in June and December. Financing activities in 1999 included $9.3 million from the sale of Series D preferred stock.

We expect to generate losses from operations for several years due to substantial additional research and development costs, including costs related to clinical trials, and increased sales and marketing expenditures. We expect that our existing capital resources will enable us to maintain our current and planned operations through at least mid 2004. Our future capital requirements will depend on many factors, including:

- success of our sales and marketing efforts
- progress in and scope of our research and development activities
- competitive market developments
- success in acquiring complementary products, technologies or businesses

Future capital requirements will also depend on the extent to which we acquire or invest in businesses, products and technologies. If we should require additional financing due to unanticipated developments, additional financing may not be available when needed or, if available, we may not be able to obtain this financing on terms favorable to us or to our shareholders. Insufficient funds may require us to delay, scale back or eliminate some or all of our research and development programs, or may adversely affect our ability to operate as a going concern. If additional funds are raised by issuing equity securities, substantial dilution to existing shareholders may result.

The following table includes information relating to our contractual obligations as of December 31, 2001 (in thousands):

Contractual Obligations	Payments Due by Period				
	Total	1 Year	2-3 Years	4-5 Years	After 5 Years
Long Term Debt	$ 3,572	$ 2,051	$ 1,521	$ --	$ --
Operating Leases:					
Aircraft	18,630	1,927	3,854	3,854	8,995
Facilities	47,450	4,653	7,851	8,167	26,779
Convertible Subordinated Notes	175,000	--	--	--	175,000

Interest on Convertible Subordinated Notes	55,344	10,063	20,125	20,125	5,031
	299,996	18,694	33,351	32,146	215,805
Preferred Stock Dividends payable in cash or stock	1,000	500	500	--	--
	$ 300,996	$19,194	$ 33,851	$ 32,146	$215,805

The remaining amount of milestone payments we may be required to pay pursuant to the PG-TXL agreement is $18.5 million.

Income Taxes

As of December 31, 2001, we had available for Federal income tax purposes net operating loss carryforwards of approximately $302.5 million, of which $41.7 million relates to stock option deductions, and research and development credit carryforwards of approximately $9.8 million. These carryforwards begin to expire in 2007. Our ability to utilize these net operating loss and research and development credit carryforwards is subject to annual limitations of $6.7 million for losses incurred prior to March 26, 1997 and may be subject to additional limitations thereafter pursuant to the "change in ownership" rules under Section 382 of the Internal Revenue Code of 1986.

Recent Accounting Pronouncements

In June 2001, the Financial Accounting Standards Board, or FASB, issued Statement of Financial Accounting Standards No. 141 Business Combinations, and No. 142, Goodwill and Other Intangible Assets, effective for fiscal years beginning after December 15, 2001. Under the new rules, goodwill and intangible assets deemed to have indefinite lives will no longer be amortized but will be subject to an annual impairment test in accordance with the Statement. Other intangible assets will continue to be amortized over their useful lives. We will apply the new rules on accounting for goodwill and other intangible assets beginning in the first quarter of 2002. We had previously expected to record amortization expense of $2.7 million during 2002 related to goodwill that will not be amortized due to the adoption of the new statement. We are evaluating the impact of the impairment rules, if any, on our earnings and financial position.

In October 2001, FASB issued Statement of Financial Accounting Standards No. 144, Accounting for Impairment or Disposal of Long-Lived Assets, effective for fiscal years beginning after December 15, 2001, with transition provisions for certain matters. The FASB's new rules on asset impairment supersedes FASB Statement No. 121, Accounting for Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of, and provides a single accounting model for long-lived assets to be disposed of. We will evaluate the effect of the implementation of the impairment rules, if any, on our earnings and financial position.

Item 7a. Quantitative and Qualitative Disclosure about Market Risk

Interest Rate Market Risk

We are exposed to market risk related to changes in interest rates that could adversely affect the value of our investments. We maintain a short-term investment portfolio consisting of interest bearing securities with an average maturity of less than one year. These securities are classified as "available-for-sale". These securities are interest bearing and thus subject to interest rate risk and will fall in value if market interest rates increase. Because we have the ability to hold our fixed income investments until maturity, we do not expect our operating results or cash flows to be affected to any significant degree by a sudden change in market interest rates related to our securities portfolio. The fair value of our securities available-for-sale at December 31, 2001 was $217.3 million. For each one percent change in interest rates, the fair value of our securities available-for-sale would change by approximately $217,000.

We may manage our interest rate market risk, when deemed appropriate, through the use of derivative financial instruments. Derivative financial instruments are viewed as risk management tools and are not used for speculative

or trading purposes. In 2001, we entered into a long-term operating lease that had a variable rent component that was based on LIBOR. In connection with this lease, we entered into an interest rate swap agreement to limit our interest rate exposure. This swap agreement has been designated as a cash flow hedge. The portion of the net gain or loss on the derivative instrument that is effective as a hedge is reported as a component of accumulated other comprehensive loss in shareholders' equity. As of December 31, 2001, the fair value of the interest rate swap was $301,000.

Foreign Exchange Market Risk

We have operated primarily in the United States and all revenues to date have been primarily in U.S. dollars. Accordingly, we do not have material exposure to foreign currency rate fluctuations. We have not entered into any foreign exchange contracts to hedge any exposure to foreign currency rate fluctuations because such exposure is immaterial.

Item 8. Consolidated Financial Statements

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

The Board of Directors and Shareholders
Cell Therapeutics, Inc.

We have audited the accompanying consolidated balance sheets of Cell Therapeutics, Inc. as of December 31, 2001 and 2000, and the related consolidated statements of operations, shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2001. Our audits also included the financial statement schedule listed in the Index at Item 14(a). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Cell Therapeutics, Inc. at December 31, 2001 and 2000, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2001, in conformity with accounting principles generally accepted in the United States. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

Ernst & Young LLP

Seattle, Washington

CELL THERAPEUTICS, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share amounts)

	December 31, 2001	December 31, 2000
ASSETS		
Current assets:		
Cash and cash equivalents	$ 38,688	$ 23,735
Securities available-for-sale	217,255	131,172
Interest receivable	3,478	1,527
Accounts receivable, net of allowance of $389 and $67 at December 31, 2001 and December 31, 2000, respectively	1,453	109
Inventory	973	167
Prepaid expenses and other current assets	3,596	782
Total current assets	265,443	157,492
Property and equipment, net	8,395	4,263
Goodwill, net	8,064	10,135
Other intangibles, net	9,371	16,690
Other assets and deferred charges	12,477	1,531
Total assets	$ 303,750	$ 190,111
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,206	$ 1,113
Accrued expenses	11,521	8,367
Current portion of deferred revenue	523	-
Current portion of long-term obligations	2,051	1,628
Total current liabilities	15,301	11,108
Convertible subordinated notes	175,000	-
Deferred revenue, less current portion	2,371	-
Other long-term obligations, less current portion	1,521	1,060
Commitments		
Shareholders' equity:		
Preferred Stock, no par value:		
Authorized shares - 10,000,000		
Series A and B, 161,118.645 shares designated, none issued or outstanding	-	-
Series D, designated, issued and outstanding shares - none at December 31, 2001 (2,425 at December 31, 2000)	-	1,510
Common Stock, no par value:		
Authorized shares - 100,000,000		
Issued and outstanding shares - 34,981,763 and 33,562,627 at December 31, 2001 and December 31, 2000, respectively	399,649	386,895
Notes receivable from officers	(225)	(255)
Accumulated other comprehensive income	685	72
Accumulated deficit	(290,552)	(210,279)
Total shareholders' equity	109,557	177,943
Total liabilities and shareholders' equity	$ 303,750	$ 190,111

See accompanying notes.

CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share amounts)

	Year Ended December 31,		
	2001	2000	1999
Revenues:			
Product sales	$ 6,130	$ 502	$ -
License revenue	106	-	-
Total revenues	6,236	502	-
Operating expenses:			
Cost of product sold	394	19	-
Research and development	44,669	26,574	27,682
General and administrative	21,863	14,770	9,788
Sales and marketing	13,405	5,651	-
Amortization of purchased intangibles	9,390	9,390	-
Total operating expenses	89,721	56,404	37,470
Loss from operations	(83,485)	(55,902)	(37,470)
Other income (expense):			
Investment income	9,200	4,517	1,692
Interest expense	(5,988)	(544)	(502)
Net other income (expense)	3,212	3,973	1,190
Net loss	(80,273)	(51,929)	(36,280)
Preferred stock dividend	(1,372)	(508)	(5,201)
Net loss applicable to common shareholders	$(81,645)	$(52,437)	$(41,481)
Basic and diluted net loss per common share	$ (2.41)	$ (2.07)	$ (2.67)
Shares used in calculation of basic and diluted net loss per common share	33,822	25,345	15,552

See accompanying notes.

CELL THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(In thousands)

	Preferred Stock Series D		Common Stock		Notes Receivable from	Accumulated
	Shares	Amount	Shares	Amount	Officers	Deficit
Balance at January 1, 1999	-	$ -	15,535	$ 169,619	$ (380)	$(122,070)
Net proceeds from the issuance of Series D convertible preferred stock and warrants to acquire common stock net of offering costs of $755 (including warrants issued to placement agent valued at $100)	10	6,228	-	3,117	-	-
Preferred stock dividend	-	-	-	(44)	-	-
Proceeds from stock options exercised and stock awards, and stock sold via employee stock purchase plan	-	-	61	131	-	-
Equity-based compensation expense	-	-	-	569	-	-
Reclass to current asset for former officer	-	-	-	-	50	-
Comprehensive loss:						
Unrealized losses on securities available-for-sale	-	-	-	-	-	-
Net loss for the year ended December 31, 1999	-	-	-	-	-	(36,280)

Comprehensive loss	-	-	-	-	-	-
Balance at December 31, 1999	10	6,228	15,596	173,392	(330)	(158,350)
PolaRx acquisition	-	-	5,000	31,401	-	-
Conversion of preferred stock to common stock	(8)	(4,718)	3,503	4,718	-	-
Net proceeds from the issuance of common stock, net of offering costs of $4,461 (including warrants issued to placement agent valued at $1,581)	-	-	3,333	37,120	-	-
Net proceeds from the issuance of common stock via follow-on public offering, net of offering costs of $9,302	-	-	3,600	127,498	-	-
Preferred stock dividend	-	-	6	(83)	-	-
Proceeds from stock warrants exercised	-	-	1,291	2,876	-	-
Proceeds from stock options exercised and stock awards, and stock sold via employee stock purchase plan	-	-	1,234	4,257	-	-
Equity-based compensation expense	-	-	-	5,716	-	-
Reclass to current asset for former officer	-	-	-	-	75	-
Comprehensive loss:						
Unrealized gains on securities available-for-sale	-	-	-	-	-	-
Net loss for the year ended December 31, 2000	-	-	-	-	-	(51,929)
Comprehensive loss	-	-	-	-	-	-
Balance at December 31, 2000	2	1,510	33,563	386,895	(255)	(210,279)
Conversion of preferred stock to common stock	(2)	(1,510)	1,121	1,510	-	
Preferred stock dividend	-	-	21	(872)	-	-
Proceeds from stock warrants exercised	-	-	20	264	-	-
Proceeds from stock options exercised and stock awards, and stock sold via employee stock purchase plan	-	-	347	1,489	-	-
Rescission of option exercises	-	-	(91)	(266)	-	-
Equity-based expense related to warrants vesting	-	-	-	9,212	-	-
Equity-based compensation expense	-	-	-	1,400	-	-
Reclass to current asset for former officer	-	-	-	-	30	-
Donation of common stock	-	-	1	17	-	-
Comprehensive loss:						
Unrealized gains on securities available-for-sale	-	-	-	-	-	-
Unrealized gains on interest rate swap						
Net loss for the year ended December 31, 2001	-	-	-	-	-	(80,273)
Comprehensive loss						
Balance at December 31, 2001	-	$ -	34,982	$ 399,649	$ (225)	$(290,552)

	Accumulated Other Comprehesive Income/(Loss)	Total Shareholders' Equity
Balance at January 1, 1999	$ (4)	$ 47,165
Net proceeds from the issuance of Series D convertible preferred stock and warrants to acquire common stock net of offering costs of $755 (including warrants issued to placement agent valued at $100)	-	9,345
Preferred stock dividend	-	(44)
Proceeds from stock options exercised and stock awards, and stock sold via employee stock purchase plan	-	131
Equity-based compensation expense		569
Reclass to current asset for former officer	-	50
Comprehensive loss:		
Unrealized losses on securities available-for-sale	(32)	(32)
Net loss for the year ended December 31, 1999	-	(36,280)
Comprehensive loss	-	(36,312)
Balance at December 31, 1999	(36)	20,904
PolaRx acquisition	-	31,401
Conversion of preferred stock to common stock	-	-

Net proceeds from the issuance of common stock, net of offering costs of $4,461 (including warrants issued to placement agent valued at $1,581)	-	37,120
Net proceeds from the issuance of common stock via follow-on public offering, net of offering costs of $9,302	-	127,498
Preferred stock dividend	-	(83)
Proceeds from stock warrants exercised	-	2,876
Proceeds from stock options exercised and stock awards, and stock sold via employee stock purchase plan	-	4,257
Equity-based compensation expense	-	5,716
Reclass to current asset for former officer	-	75
Comprehensive loss:		
Unrealized gains on securities available-for-sale	108	108
Net loss for the year ended December 31, 2000	-	(51,929)
Comprehensive loss	-	(51,821)
Balance at December 31, 2000	72	177,943
Conversion of preferred stock to common stock		
Preferred stock dividend	-	(872)
Proceeds from stock warrants exercised	-	264
Proceeds from stock options exercised and stock awards, and stock sold via employee stock purchase plan	-	1,489
Rescission of option exercises	-	(266)
Equity-based expense related to warrants vesting	-	9,212
Equity-based compensation expense	-	1,400
Reclass to current asset for former officer	-	30
Donation of common stock	-	17
Comprehensive loss:		
Unrealized gains on securities available-for-sale	312	312
Unrealized gains on interest rate swap	301	301
Net loss for the year ended December 31, 2001	-	(80,273)
Comprehensive loss		(79,660)
Balance at December 31, 2001	$ 685	$ 109,557

See accompanying notes.

CELL THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,		
	2001	2000	1999
Operating activities			
Net loss applicable to common shareholders	$ (81,645)	$ (52,437)	$(41,481)
Adjustments to reconcile net loss applicable to common shareholders to net cash used in operating activities:			
Preferred stock dividend	1,372	508	5,200
Depreciation and amortization	11,197	11,115	1,822

Noncash rent benefit	(115)	(115)	(171)
Equity-based expense related to warrants vesting	9,212	-	-
Equity-based compensation expense	1,417	5,716	569
Loss on disposition of property and equipment	-	-	526
Amortization of investment (discount) and premium	1,040	(682)	366
Loss (gain) on sale of investment securities	(26)	1	5
Changes in assets and liabilities:			
Interest receivable	(1,952)	(1,159)	270
Accounts receivables, net	(1,344)	(110)	3,254
Inventory	(806)	(167)	-
Prepaid expenses and other current assets	(2,537)	68	222
Other assets and deferred charges	(3,599)	(521)	(732)
Accounts payable	93	(112)	118
Accrued expenses	2,907	1,893	80
Deferred revenue	2,894	-	-
Total adjustments	19,753	16,435	11,529
Net cash used in operating activities	(61,892)	(36,002)	(29,952)
Investing activities			
Purchases of securities available-for-sale	(297,471)	(148,415)	(29,562)
Proceeds from sales of securities available-for-sale	35,183	2,513	11,111
Proceeds from maturities of securities available-for-sale	175,503	33,723	41,915
Purchases of property and equipment	(5,938)	(953)	(558)
PolaRx acquisition, net of cash acquired	-	(781)	-
Net cash provided by (used in) investing activities	(92,723)	(113,913)	22,906
Financing activities			
Proceeds from issuance of convertible subordinated notes, net	167,954	-	-
Sale of common stock, net of offering costs	-	164,619	-
Sale of preferred stock via private placement, net of offering costs	-	-	9,345
Proceeds from common stock options exercised	977	4,034	14
Rescission of stock options exercised	(266)	-	-
Proceeds from common stock warrants exercised	264	2,876	-
Proceeds from employee stock purchase plan	512	223	117
Repayment of notes payable	-	(2,673)	-
Repayment of long-term obligations	(1,425)	(1,103)	(1,118)
Proceeds from the issuance of long-term obligations	1,552	-	-
Net cash provided by financing activities	169,568	167,976	8,358
Net increase in cash and cash equivalents	14,953	18,061	1,312
Cash and cash equivalents at beginning of year	23,735	5,674	4,362
Cash and cash equivalents at end of year	$ 38,688	$ 23,735	$ 5,674
Supplemental disclosure of cash flow information			
Conversion of Series D preferred stock into common stock	$ 1,510	$ 4,718	$ -
Common Stock issued in PolaRx acquisition	$ -	$ 31,440	$ -
Cash paid during the period for interest obligations	$ 4,987	$ 544	$ 502
Issuance of common stock for payment of preferred stock dividend	$ 500	$ 425	$ -

See accompanying notes.

CELL THERAPEUTICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2001

1. Description of Business and Summary of Significant Accounting Policies

Description of Business

Cell Therapeutics, Inc. focuses on the discovery, development, and commercialization of drugs for the treatment of cancer. Our principal business strategy is to focus our activities on cancer therapeutics, an area that represents a large market opportunity that is not adequately served by existing therapies. We commenced operations February 1992.

We operate in a highly regulated and competitive environment. The manufacturing and marketing of pharmaceutical products require approval from, and are subject to, ongoing oversight by the Food and Drug Administration in the United States and by comparable agencies in other countries. Obtaining approval for a new therapeutic product is never certain and may take several years and involve expenditure of substantial resources. Competition in researching, developing, and marketing pharmaceutical products is intense. Any of the technologies covering our existing products under development could become obsolete or diminished in value by discoveries and developments of other organizations. We operate in one business segment.

The market for our current pharmaceutical product is primarily the United States. Sales are primarily to pharmaceutical wholesalers. During 2001, approximately 92% of our product sales were made to three of these wholesalers, and during 2000, approximately 83% of sales were made to four of these wholesalers. We obtain our product from one supplier.

Principles of Consolidation

The consolidated financial statements include the accounts of Cell Therapeutics, Inc., its wholly owned subsidiaries (CTI Technologies, Inc., PolaRx Biopharmaceuticals, Inc., CTI Corporate Development, Inc. and Cell Therapeutics (UK) Limited), and its majority owned subsidiary (PanGenex, Inc.). All intercompany transactions and balances are eliminated in consolidation.

Cash and Cash Equivalents

We consider all highly liquid debt instruments with maturities of three months or less at the time acquired to be cash equivalents. Cash equivalents represent short-term investments consisting of investment-grade corporate and government obligations, carried at market value, which approximates cost.

Securities Available-for-Sale

Management determines the appropriate classification of debt securities at the time of purchase. Management currently classifies our investment portfolio as available-for-sale and carries the securities at fair value based on quoted market prices with unrealized gains and losses included in accumulated other comprehensive income and loss. The amortized cost of debt securities in this category is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization and accretion is included in investment income. Realized gains and losses and declines in value judged to be other than

temporary on available-for-sale securities are included in investment income. The cost of securities sold is based on the specific identification method. Interest on securities classified as available-for-sale is included in investment income.

Certain Concentrations

We are subject to concentration of credit risk primarily from our cash investments. Under our investment guidelines, credit risk is managed by diversification of the investment portfolio and by the purchase of investment-grade securities. We do not require collateral or other security to support credit sales, but provide an allowance for bad debts when warranted.

We entered into a supply agreement with our sole supplier of paclitaxel, a key starting material for our PG-TXL drug candidate. We also have an agreement with a contract manufacturer for TRISENOX, our current commercial product. If we are unable to obtain sufficient quantities from these suppliers and if we were

unable to source these materials and services from other suppliers and manufacturers, certain research and development and sales activities may be delayed.

License Agreement Revenues

We may generate revenue from technology licenses, collaborative research and development arrangements, and cost reimbursement contracts. Revenue under technology licenses and collaborative agreements typically consists of nonrefundable and/or guaranteed technology license fees, collaborative research funding, and various milestone and future product royalty or profit-sharing payments.

Revenue associated with up-front license fees, and research and development funding payments under collaborative agreements is recognized ratably over the relevant periods specified in the agreement, generally the research and development period. Revenue from substantive at-risk milestones and future product royalties is recognized as earned based on the completion of the milestones and product sales, as defined in the respective agreements. Revenue under cost reimbursement contracts is recognized as the related costs are incurred. Payments received in advance of recognition as revenue are recorded as deferred revenue.

Product Sales

We recognize revenue from product sales when there is persuasive evidence that an arrangement exists, delivery has occurred, the price is fixed and determinable, and collectibility is reasonably assured. Product sales are recorded net of an allowance for returns and discounts. Allowances for discounts, returns and bad debts, which are netted against accounts receivable, totaled approximately $389,000 and $67,000 for the years ended December 31, 2001 and 2000, respectively.

Cost of Product Sold

Cost of product sold consists primarily of the cost of product sold to our customers, including allowances for excess inventory that may expire and become unsaleable. Royalties paid on product sales, as well as shipping and handling costs are also included.

Inventory

Inventory is stated at the lower of cost or market. Cost is determined using a weighted-average approach that approximates the first-in first-out method. Finished goods inventory consists of our FDA-approved pharmaceutical drug, TRISENOX. Prior to FDA approval, the raw material and production costs of TRISENOX were recorded as research and development expense. If the cost of the inventory exceeds the expected market value, provisions are recorded currently for the difference between the cost and the market value. We also record an allowance for excess inventory that may expire and become unsaleable. The components of inventories are as follows as of December 31 (in thousands):

	2001	2000
Work in process	$813	$ --
Finished goods	160	167
	$973	$167

Research and Development Expenses

Research and development expenses include related salaries, contractor fees, occupancy costs, utilities, administrative expenses and allocation of

corporate costs. Research and development expenses consist of costs incurred for proprietary and collaboration research and development and also include activities such as product registries and investigator sponsored trials. All such costs are charged to research and development expenses as incurred.

Property and Equipment

Property and equipment, including assets pledged as security in financing agreements, are carried at cost, less accumulated depreciation and amortization. Leasehold improvements are amortized over the lesser of the useful life or the term of the applicable lease using the straight-line method. Depreciation commences at the time assets are placed in service and is calculated using the straight-line method over the estimated useful lives of the assets (three to five years).

We perform reviews of our long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount might not be recoverable. We do not perform a periodic assessment of assets for impairment in the absence of such information or indicators. To date, no such impairment has been indicated.

Intangible Assets

Intangible assets consist of goodwill and other acquisition-related intangible assets acquired in 2000. The assets are amortized using the straight-line method over their estimated useful lives, ranging from three to five years. We periodically perform reviews to evaluate the recoverability of goodwill and other intangibles and take into account events or circumstances that warrant revised estimates of useful lives or that indicate an impairment exists. In the event that the sum of future undiscounted cash flows is less than recorded book value, the carrying amount will be reduced to its fair value.

Intangible assets are composed of the following as of December 31 (in thousands):

	2001	2000
Goodwill	$13,440	$13,440
Marketing intangible asset	16,100	16,100
Other intangibles	6,674	6,674
	36,214	36,214
Less: accumulated amortization	18,779	9,389
	$17,435	$26,825

Stock-Based Compensation

In accordance with Statement of Financial Accounting Standards No. 123, Accounting for Stock-Based Compensation (SFAS 123), we elected to continue to account for stock-based compensation using the intrinsic value method prescribed in Accounting Principles Board Opinion No. 25, Accounting for Stock Issued to Employees and related interpretations. Accordingly, compensation cost for stock options is measured as the excess, if any, of the market price of our common stock at the date of grant over the stock option exercise price. Any deferred compensation is recognized on a graded vesting method. Under our plan, stock options are generally granted at fair market value.

Stock compensation expense for options granted to non-employees has been determined in accordance with SFAS 123 and the Emerging Issues Task Force consensus in Issue No. 96-18, Accounting for Equity Instruments that are Issued to Other than Employees for Acquiring, or in Conjunction with Selling, Goods or Services (EITF 96-18), as the fair value of the consideration received or the fair value of the equity instruments issued, whichever is more reliably measured. The fair value of options granted to non-employees is periodically

remeasured as the underlying options vest.

Advertising Costs

The costs of advertising are expensed as incurred. We incurred advertising costs of $839,000 and $469,000 in 2001 and 2000, respectively. There were no material advertising costs in 1999.

Net Loss per Share

Basic net loss per share is calculated based on the net loss applicable to common shareholders divided by the weighted average number of common shares outstanding for the period excluding any dilutive effects of options, warrants and convertible securities. Diluted earnings per share, if separately presented, would assume the conversion of all dilutive convertible securities, such as convertible subordinated debt and convertible preferred stock using the if-converted method, and would assume the exercise of other dilutive securities, such as option and warrants, using the treasury stock method. Due to our history of losses, all such securities have been anti-dilutive.

Derivative Financial Instruments

Effective at the beginning of fiscal 2001, we adopted SFAS 133, Accounting for Derivative Instruments and Hedging Activities, as amended. We are subject to risks associated with fluctuations in the LIBOR interest rate from lease payments on our aircraft. Our policy is to hedge a portion of these forecasted transactions through an interest rate swap agreement. This swap agreement has been

designated as a cash flow hedge. The portion of the net gain or loss on the derivative instrument that is effective as a hedge is reported as a component of accumulated other comprehensive loss in shareholders' equity and is reclassified into earnings in the same period during which the hedged transaction affects earnings. The remaining net gain or loss on the derivative in excess of the present value of the expected cash flows of the hedged transaction is recorded in earnings immediately. If a derivative does not qualify for hedge accounting, or a portion of the hedge is deemed ineffective, the change in fair value is recorded in earnings. The swap was perfectly effective at December 31, 2001. We do not enter any forward agreements for trading purposes.

Other Financial Instruments

At December 31, 2001 and 2000, the carrying value of financial instruments such as receivables and payables, approximated their fair values based on the short-term maturities of these instruments. Additionally, the carrying value of long-term liabilities and convertible subordinated notes approximated fair values because the underlying interest rates reflect market rates at the balance sheet dates.

Use of Estimates

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

New Accounting Pronouncements

During July 2001, the FASB issued SFAS 141, Business Combinations, and SFAS 142, Goodwill and Other Intangible Assets. SFAS 141 prohibits the use of the pooling-of-interests method for business combinations initiated after June 30, 2001. SFAS 141, which also includes the criteria for the recognition of intangible assets separately from goodwill, is effective for any business combination accounted for by the purchase method that is completed after June 30, 2001. Under SFAS 142, goodwill will no longer be amortized over its expected useful life, but rather, will be assessed for impairment on an annual basis. Separately identifiable intangible assets that do not have an indefinite life

will continue to be amortized. We recorded goodwill in conjunction with our acquisition of PolaRx in 2000. We will apply the new rules on accounting for goodwill and other intangible assets beginning in the first quarter of 2002. We will perform the first of the required impairment tests of goodwill as of January 1, 2002. We do not expect the impact of these tests to be material to our net loss or financial position. The effect of discontinuing the amortization of goodwill is expected to result in a decrease in our net loss of $2.7 million in 2002.

During August 2001, the FASB issued SFAS 144, Accounting for the Impairment or Disposal of Long-Lived Assets. SFAS 144 is applicable to financial statements issued for fiscal years beginning after December 15, 2001. SFAS 144 supersedes SFAS 121, Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of, and provides a single accounting model for long-lived assets to be disposed of. We do not anticipate that the adoption of this statement will have a material effect on our consolidated results of operations or financial position.

Reclassifications

Certain prior year items have been reclassified to conform to the current year presentation.

Comprehensive Loss

SFAS 130, Reporting Comprehensive Income, includes unrealized gains and losses on our securities available-for-sale and interest rate swap agreement, designated as a cash flow hedge, to be included in other comprehensive loss.

Information regarding the components of accumulated other comprehensive income is as follows (in thousands):

	2001	2000
Net unrealized gains on securities available-for-sale	$384	$ 72
Net unrealized gains on interest rate swap	301	--
	$685	$ 72

2. Securities Available-for-Sale

Securities available-for-sale consist of the following as of December 31 (in thousands):

	2001			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U S government obligations	$ 37,108	$ 46	$ --	$ 37,154
Municipal government obligations	24,071	17	(13)	24,075
Corporate obligations	155,692	376	(42)	156,026
	$216,871	$ 439	$ (55)	$217,255

		Gross	Gross	
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
U S government obligations	$ 20,078	$ 14	$ --	$ 20,092
Municipal government	4,050	16	--	4,066

obligations				
Corporate obligations	106,972	56	(14)	107,014
	$131,100	$ 86	$ (14)	$131,172

As of December 31, 2001 and 2000, all securities available-for-sale had contractual maturities of less than one year. Gross realized gains and losses to date have not been material.

3. Property and Equipment

Property and equipment are composed of the following as of December 31 (in thousands):

	2001	2000
Leasehold improvements	$ 6,369	$ 4,551
Lab equipment	7,947	6,075
Furniture and office equipment	9,126	6,877
	23,442	17,503
Less: accumulated depreciation and amortization	(15,047)	(13,240)
	$ 8,395	$ 4,263

Depreciation expense of $1.8 million, $1.7 million, and $1.8 million was recognized during 2001, 2000, and 1999, respectively.

4. Accrued Liabilities

Accrued liabilities consist of the following as of December 31 (in thousands):

	2001	2000
Employee compensation and related expenses	$ 3,430	$3,033
Accrued manufacturing expenses	1,675	627
Accrued clinical development	1,558	700
Insurance financing and accrued interest expense	1,052	358
Accrued corporate development and sales and marketing expenses	772	818
Accrued other research and development expenses	588	719
Other	2,446	2,112
	$11,521	$8,367

5. Contractual Arrangements and Commitments

License Agreement

We have an agreement with the Fred Hutchinson Cancer Research Center (FHCRC) under the terms of which we received worldwide licenses and options to technology, or technology claimed, for five U.S. patent applications. We are obligated to pay royalties on revenues resulting from future sales of products employing the technology and on revenues received from sublicenses for the technology, with minimum annual royalties of $50,000 prior to, and $100,000 after, the first commercial sale of such products. The agreements are for a term equal to the later of March 2007 or the expiration of the last issued patent included within the licensed technology, unless terminated earlier for certain specified events, including our failure to take reasonable efforts to engage in research and development with respect to the licensed technology. We recognized research and development expense of $50,000 in 2001, 2000 and 1999 related to

this agreement.

Facilities

We have executed noncancelable operating leases for office and laboratory space that expire in 2003, with two five-year renewal options at the then-current market rates. The lessor provided approximately $575,000 for leasehold improvements and rent concessions, which is being amortized over the initial lease term. In 2001, we executed an operating lease for additional office space expiring in July 2012. Rent expense amounted to $2.9 million, $1.2 million, and $1.4 million, for the years ended December 31, 2001, 2000, and 1999, respectively.

Aircraft

In 2001, we entered into an operating lease agreement for use of an aircraft. Terms of the lease include current monthly rental payments of approximately $70,000. Effective March 1, 2002, our monthly rental payments will be the sum of $161,000 plus an incremental rent adjustment, which is based on the value of the aircraft and will vary depending on the prevailing applicable LIBOR rate. After one year, we may cancel this agreement if certain conditions are met and six months notice is provided. The lease expires in August 2011 with provision for renewal and we are responsible for all maintenance and insurance costs for the aircraft. Rent expense amounted to $294,000 for the year ended December 31, 2001.

In connection with this aircraft lease, we entered into an interest rate swap agreement that effectively locks in the effect of the incremental rate adjustment for the first 78 payments. Under the swap agreement, we will receive a variable amount based on the monthly LIBOR rate and we will pay a fixed rate payment based on a rate of 4.78%. The swap agreement's notional amount matches the incremental rent value of the aircraft. The other party to the swap agreement is an affiliate of the lessor; therefore, we do not believe we have any counterparty risk related to the interest rate swap. At December 31, 2001, the fair value of the swap was $301,000, which is recorded in long-term other assets and other comprehensive income, and we believe it is 100% effective. As a result of the above transactions, the effective interest rate on this lease is 6.49%.

Future Minimum Lease Payments

Future minimum lease commitments for operating leases at December 31, 2001 are as follows (in thousands):

2002	$ 6,580
2003	5,854
2004	5,852
2005	5,955
2006	6,066
Thereafter	35,773
	$66,080

Supply Agreement

In September 2001, we entered into a supply agreement with Natural Pharmaceuticals, Inc. for paclitaxel, a key starting material for our PG-TXL drug candidate. Under the supply agreement, we purchased paclitaxel at a pre-determined price and will receive supply over a multi-year term. At December 31, 2001, we had recorded a $5.7 million prepayment relating to this agreement, of which $3.8 million is classified as noncurrent.

6. Convertible Subordinated Notes

In June 2001, we issued $150.0 million principal amount of 5.75% convertible subordinated notes due June 15, 2008 with interest payable semi-annually in June and December. In September 2001, we issued an additional $25.0 million principal amount of these notes. This additional issuance resulted from the exercise of an over-allotment option that we had granted to the initial purchasers. Net proceeds to us were approximately $168.0 million, after deducting expenses and underwriters' discounts and commissions. We recorded issuance costs related to the notes of approximately $7.0 million. These issuance costs are recorded in other assets and are being amortized to interest expense over the seven-year life of the notes.

The notes are convertible, at the option of the holder, into shares of our common stock at any time prior to maturity or redemption at a conversion rate of 29.4118 shares per each $1,000 principal note, subject to adjustment in certain circumstances. This is equivalent to a conversion price of approximately $34.00 per share. Under certain conditions, we may be able to redeem the notes by making an additional payment of $172.50 per $1,000 note, less any interest paid on the notes before June 21, 2004. Thereafter, we can redeem the notes at specified redemption prices ranging from 103.286% to 100% of the principal amount. The redemption prices will vary depending on the year redeemed.

7. Other Long-Term Obligations

Long-term obligations consist of the following as of December 31 (in thousands):

	2001	2000
Master financing agreement, due October 2004, monthly payments of $48, including interest at 7.1%	$ 1,489	$ --
Master financing agreement, due September 2002, monthly payments of $60, including interest at 12.4%	680	1,273
Master financing agreement, due December 2002, monthly payments of $18, including interest at 12.4%	255	431
Master financing agreement, due December 2001, monthly payments of $44, including interest at 12.5%	--	617
Accrued preferred stock dividend	1,000	128
Deferred rent and other long-term obligations	148	239
	3,572	2,688
Less current portion	(2,051)	(1,628)
	$ 1,521	$ 1,060

For each borrowing, we granted the lender a security interest in specified fixed assets. Maturities of the long-term obligations listed above at December 31, 2001 are as follows (in thousands):

Years Ending December 31,	
2002	$ 2,051
2003	1,045
2004	476
	$ 3,572

As of December 31, 2001, we drew down $1.6 million on an approximate $6.0 million line of credit for purchases of equipment. All draw-downs will be secured by the equipment purchased, and will be repaid monthly over a period ranging from three to four years. The interest rate will be calculated at each draw-down and will be based on the three or five year U.S. treasury rate, determined by the loan term, plus approximately 4%.

8. Capital Stock

In November 1999, we completed a $10 million private placement of 10,000 shares of Series D convertible preferred stock (Series D) and warrants to acquire 1,523,810 shares of common stock, resulting in net proceeds of $9.3 million. Each share of Series D was convertible into 462.427 shares of common stock. The warrants were valued at $3.0 million, have exercise prices of $2.625 per share of common stock and expire in November 2004. We also issued warrants to purchase 50,000 shares of common stock to the placement agent of the Series D. These warrants expire in 2004, and have exercise prices of $2.38. All warrants were valued using the Black-Scholes pricing model with input assumptions for volatility, risk-free interest rate, dividends, and life of 1.01, 5.5%, none, and five years, respectively. During 2001 and 2000, 2,425 shares of Series D were converted into 1,121,386 shares of common stock, and 7,575 shares of Series D were converted into 3,502,890 shares of common stock, respectively. As of December 31, 2001, all preferred stock had been converted into common stock. No warrants were exercised during 2001, and 1,164,286 warrants were exercised and converted into 1,137,805 shares of common stock during 2000. There were 409,524 warrants outstanding as of December 31, 2001.

Investors of the Series D are entitled to receive cumulative dividends at a rate per share of 5% per annum payable on each September 30, commencing September 30, 2000. At our option, subject to certain restrictions and penalties, dividends may be paid in cash or in shares of our common stock. We are to pay each Series D investor four annual dividends notwithstanding any conversion. We paid dividends with 20,785 and 6,366 shares of our common stock in 2001 and 2000, respectively. We recorded $1.0 million and $128,000 as a preferred stock dividend payable as of December 31, 2001 and 2000, respectively.

On the date of the preferred stock issuance, the effective conversion price of the preferred stock (after allocating the portion of the proceeds to the common stock warrants based on the relative fair values) was at a discount to the price of the common stock into which the preferred stock is convertible. In accordance with EITF 98-5 Convertible Securities with Beneficial Conversion Features, the discount was recorded as a preferred stock dividend valued at $5.2 million.

In February 2000, we completed a $40 million private placement of 3,333,334 shares of common stock at an offering price of $12 per share, resulting in net proceeds of approximately $37.1 million. In

connection with the offering, we issued 170,000 warrants to purchase shares of common stock to a placement agent. The warrants are exercisable at a price of $13.20 per share and expire in February 2005. The shares of common stock issued and issuable upon the exercise of the warrants have certain registration rights. During 2001 and 2000, 20,000 warrants were exercised and converted into 20,000 shares of common stock, and 40,875 warrants were exercised and converted into 38,721 shares of common stock, respectively. There were 109,125 and 129,125 such warrants outstanding as of December 31, 2001 and 2000, respectively.

In September 2000, we completed a public offering of 3.6 million shares of our common stock at $38 per share, which generated net proceeds of $127.5 million.

Common Stock Reserved

A summary of common stock reserved for issuance is as follows as of December 31, 2001:

Convertible subordinated notes	5,147,065
Equity incentive plan	5,020,316
Common stock warrants	868,649
Restricted share rights	103,665
Employee stock purchase plan	90,701
	11,230,396

9. Stock Options and Warrants

Stock Options

The 1994 Equity Incentive Plan (the 1994 Plan) provides for (a) the grant of incentive stock options (with terms not to exceed ten years), nonstatutory stock options and stock appreciation rights, (b) the award of stock bonuses, (c) the sale of stock, and (d) any other equity-based or equity-related awards which the Plan Administrator determines to be consistent with the purpose of the 1994 Plan. Option-vesting schedules are specified by the Plan Administrator. The 1994 Plan also provides for the automatic grant of nonstatutory options to non-employee directors.

	Shares Under Option	Weighted Average Exercise Price Per Share
Balance January 1, 1999 (57,477 exercisable)	2,508,827	$ 3.07
Granted	1,198,459	2.96
Canceled	(517,718)	3.03
Exercised	(4,932)	2.84
Balance December 31, 1999 (1,666,822 exercisable)	3,184,636	3.04
Granted		
At fair value	1,179,654	36.87
At prices below fair value	52,600	47.28
Canceled	(173,784)	5.37
Exercised	(1,214,001)	3.31
Balance December 31, 2000 (1,097,625 exercisable)	3,029,105	16.73
Granted	1,583,129	25.78
Canceled	(40,478)	36.08
Exercised	(324,182)	2.99
Rescinded	91,384	2.91
Balance December 31, 2001 (1,812,564 exercisable)	4,338,958	10.40

	Options Outstanding			Exercisable Options Outstanding (Without Restriction)	
Range of Exercise Prices	Number Outstanding 12/31/01	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price

$ 2.00 - $ 11.09	1,610,202	7.07 Years	$ 2.98	1,418,604	$ 2.95
$14.72 - $ 24.55	664,548	9.46 Years	$ 23.88	28,810	$ 21.82
$24.81 - $ 30.06	1,272,403	9.47 Years	$ 27.40	100,760	$ 28.11
$39.56 - $ 47.28	791,805	8.89 Years	$ 42.67	264,390	$ 42.40
$ 2.00 - $ 47.28	4,338,958	8.47 Years	$ 20.59	1,812,564	$ 10.40

The weighted average fair value of options granted during 2001 was $19.66, during 2000 was $33.23 and $41.20 for those issued at fair value and in-the-money, respectively, and during 1999 was $1.94. As of December 31, 2001, 479,627 shares of common stock were available for future grants.

SFAS 123 encourages, but does not require, entities to adopt the fair value method of accounting for their stock-based compensation plans. Under this method, compensation cost for stock-based compensation plans is measured at the grant date based on the fair value of the award and is recognized over the vesting period. Fair value is determined using a Black-Scholes option pricing model that takes into account (1) the stock price at the grant date, (2) the exercise price, (3) an assumed four and a half-year expected life in 2001 and 2000, and an assumed two-year expected life in 1999, (4) no expected dividends, (5) a risk-free interest rate of 4.5%, 6.0%, and 5.5% in 2001, 2000, and 1999, respectively, and (6) a volatility factor of 1.062, 1.095, and 1.006, in 2001, 2000, and 1999, respectively. In accordance

with the provisions of SFAS 123, we apply Accounting Principles Board Opinion No. 25 and related interpretations in accounting for our stock option plans and, accordingly, do not recognize compensation cost for options granted with exercise prices equal to or greater than fair value. If we elected to recognize compensation cost based on the fair value of the options granted at grant date as prescribed by SFAS 123, net loss applicable to common shareholders and basic and diluted net loss and basic and diluted net loss per share would have been adjusted (increased) as follows for the years ended December 31 (in thousands, except per share amounts):

	2001	2000	1999
Net loss applicable to common shareholders:			
As reported	$ (81,645)	$ (52,437)	$ (41,481)
As adjusted	(104,152)	(56,894)	(43,530)
Basic and diluted net loss per share:			
As reported	$ (2.41)	$ (2.07)	$ (2.67)
As adjusted	$ (3.08)	$ (2.24)	$ (2.80)

During the year ended December 31, 2000, in connection with the grant of certain options to employees, we recorded deferred stock compensation (included in deferred charges) of $800,000, representing the difference between the exercise price and the fair value of our common stock on the measurement date, of which $145,000 and $366,000 was expensed during 2001 and 2000, respectively.

In accordance with EITF 96-18, we consider all equity instruments issued to non-employees to be accounted for as fair value equity instruments. The value of the instrument is amortized to expense over the vesting period with final valuation measured on the vesting date. At December 31, 2001 and 2000, options to acquire 153,674 and 224,332 shares of common stock, respectively, are considered fair value options. We recognized non-employee equity-based compensation related expense of $1,639,000, $2,674,000, and $569,000, during 2001, 2000, and 1999, respectively.

We also issued 103,665 restricted share rights to non-employees in 1998

for which ownership vests upon the achievement of a future event (see Note 13). Compensation related to these rights will be measured as the event becomes probable with final valuation on the vesting date.

In December 1999, the Compensation Committee of the Board of Directors authorized the issuance of 243,903 restricted share rights valued at $746,000 to executive officers and certain employees. The rights vest in December 2002. During 2001 and 2000, 13,947 and 28,225 restricted share rights were canceled, respectively, due to employee terminations. The share value was recorded as deferred compensation (included in deferred charges on the balance sheet), and is being amortized over the three year vesting period. We recognized compensation related expense of $206,000 and $220,000 during 2001 and 2000, respectively. In May 2001, the Compensation Committee of the Board of Directors approved the rescission of certain stock option exercises that two officers and a consultant had made in January 2001. In exchange for the return of 91,384 shares of our common stock, we reinstated their original option grant and returned to them the related exercise price of $266,000. These options are now subject to variable stock compensation accounting.

Warrants

In 1998, we issued warrants to purchase 350,000 shares of our common stock in connection with a license agreement with PG-TXL Company, L.P. These warrants became exercisable only upon the occurrence of certain exercise events. In October 2001, we entered into a licensing agreement with Chugai Pharmaceutical Co, Ltd., allowing them to develop PG-TXL within certain territories. The signing of this agreement qualified as an exercise event, and these warrants became exercisable at an exercise price of $20. We recorded related expense of $9.2 million as research and development expense in the fourth quarter of 2001 based upon the fair value of the warrants on the date of the event. The warrants expire in November 2008.

In 1999, we entered into an agreement with two consulting companies to develop and execute a communication plan. In connection with this agreement, we granted warrants to purchase 150,000 shares of common stock to the consultants, whereby each warrant entitled the holder to purchase one share of our common stock at strike prices ranging from $3.00 to $18.00 per share. Except for those warrants with a strike price of $3.00 per share which vested immediately (valued at $37,500, in accordance with EITF 96-18), the warrants vested when the closing price for our common stock equaled or exceeded its strike price for a specified period of time. During 2000, all of the warrants vested and we recognized compensation expense of $2.2 million. All the warrants were exercised by the consultants, and converted into 114,308 shares of common stock during 2000.

Employee Stock Purchase Plan

We maintain an Employee Stock Purchase Plan (the Purchase Plan), under which eligible employees may purchase a limited number of shares of our common stock at 85% of the lower of the subscription date fair market value and the purchase date fair market value. There are two six-month offerings per year. Under the Purchase Plan, we issued 23,567 and 19,666 shares to employees in 2001 and 2000, respectively. There is a balance of 90,701 shares reserved for future purchases at December 31, 2001.

10. Net Loss Per Share

Basic and diluted loss per share is calculated using the average number of common shares outstanding as follows (in thousands, except per share amounts):

	Year ended December 31,		
	2001	2000	1999

Net loss applicable to common shareholders (A)	$ (81,645)	$ (52,437)	$(41,481)
Weighted average common stock outstanding (B)	33,822	25,345	15,552
Loss per share: Basic and diluted (A/B)	$ (2.41)	$ (2.07)	$ (2.67)

As of December 31, 2001, 2000, and 1999, options, warrants and convertible preferred stock aggregating 5,313,003, 5,358,484, and 9,986,388 common equivalent shares, respectively, were not included in the calculation of diluted net loss per share as they are anti-dilutive.

11. Income Taxes

As of December 31, 2001, we had net operating loss carryforwards of approximately $302.5 million (of which $41.7 million relates to stock option deductions) and research and development credit carryforwards of approximately $9.8 million. The carryforwards begin to expire in the year 2007. Due to rounds of equity financings (and other ownership changes as defined in Section 382 of the Internal Revenue Code of 1986, as amended (the Code) see Notes 8 and 14), we incurred "ownership changes" pursuant to the Code, as amended. Accordingly, our use of the net operating loss carryforwards is limited to approximately $6.7 million annually for losses incurred prior to March 26, 1997 and may be subject to additional limitations thereafter. To the extent that any single-year loss is not utilized to the full amount of the limitation, such unused loss is carried over to subsequent years until the earlier of its utilization or the expiration of the relevant carryforward period.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. We recognized a valuation allowance equal to the deferred tax assets due to the uncertainty of realizing the benefits of the assets. Our valuation allowance increased $25,406,000, $29,900,000, and $13,609,000, during 2001, 2000, and 1999, respectively.

Significant components of our deferred tax liabilities and assets as of December 31 are as follows (in thousands):

	2001	2000
Deferred tax assets:		
Net operating loss carryforwards	$ 102,837	$ 80,267
Research and development tax credit carryforwards	9,768	7,753
Accruals on financial statements in excess of tax returns	303	148
Charitable contributions carryforward	572	139
Depreciation in financial statements in excess of tax	649	529
Other	62	--
Gross deferred tax assets	114,191	88,836
Less valuation allowance	(114,191)	(88,785)
Gross deferred tax liability:	--	51
Accruals on tax returns in excess of financial statements	--	(51)
Net deferred tax	$ --	$ --

12. Consulting and Employment Agreements

Corporate Officers

Loans to executive officers totaling $225,000 and $255,000 were outstanding as of December 31, 2001 and 2000, respectively. Each of the full-recourse notes has a term of four years and bears interest at approximately 5%. The full balance of principal and accumulated interest is due at maturity. Although

not required by the terms of these loans, the executives used the funds to purchase shares of our common stock on the open market.

We have severance agreements with certain of our officers having terms between twelve and eighteen months.

Advisory Boards

We have entered into consulting agreements with the members of our Scientific and Clinical Advisory Boards ("Advisory Boards") providing for the periodic issuance of common stock and options to purchase common stock, and consulting fees. One agreement has an annual retainer of $10,000. The remaining advisory board members are paid consulting fees on a per diem basis. The consulting agreements with members of the Advisory Boards are cancelable upon 30 days notice. We issued 5,712 and 49,276 stock options to members of our Advisory Boards in 2000 and 1999, respectively. No stock options were issued to these members in 2001. All options held by advisory board members are accounted for at fair value in accordance with EITF 96-18. Compensation related expense for options issued to advisory board members recognized in 2001, 2000, and 1999 was $8,000, $1,248,000, and $156,000, respectively.

Consultants

We issued stock options to other consultants for various services. All options held by consultants are accounted for at fair value in accordance with EITF 96-18. Related compensation expense recognized in 2001, 2000, and 1999 was $1,639,000, $1,426,000, and $256,000, respectively.

Related Party Disclosure

In 1999, we entered into an agreement with a clinical medical consultant who is the spouse of one of our executive officers. No services were rendered during 2001. We paid the clinical medical consultant approximately $77,450 and $107,000 during 2000 and 1999, respectively, in fees for services rendered.

13. Significant Agreements

Other Agreements

Chugai Pharmaceutical Co., Ltd.: In October 2001, we entered into a licensing agreement with Chugai Pharmaceutical Co., Ltd. for the development and commercialization of PG-TXL. This agreement grants an exclusive license to Chugai to develop and commercialize PG-TXL in several Asian markets. Upon execution of the agreement, Chugai paid us a $3.0 million initial payment, which we recorded as deferred revenue and which is being recognized as revenue over the development period on a straight-line basis. We recognized $106,000 of revenue during 2001. Under the agreement, we may also receive milestone payments totaling up to $16.0 million upon Chugai's achievement of certain product development milestones, and we are entitled to receive royalties on product sales in the territories covered under the agreement. Chugai has also committed to incur up to $54 million in development expenditures over the course of the licensing agreement. The agreement will terminate on a country-by-country basis

upon the earlier to occur of the expiration of the applicable patent rights in a given country or fifteen years from the date of the first commercial sale of PG-TXL in such country.

PG-TXL Company, L.P.: In 1998, we entered into an agreement with PG-TXL Company, L.P. granting us an exclusive worldwide license for the rights to polyglutamic acid paclitaxel (PG-TXL), a water soluble form of the cancer drug, Taxol(R) and to all potential uses of PG-TXL Company, L.P.'s polymer technology. Under the terms of the agreement, we acquired the rights to fund the research, development, manufacture, marketing and sale of anti-cancer drugs developed using this polymer technology.

We will be obligated to make future milestone payments upon the attainment of significant achievements, as defined in the agreement of up to $20.5 million. We made a $2 million milestone payment to PG-TXL Company L.P. in 2000. We also granted warrants to purchase 350,000 shares of our common stock to PG-TXL Company, L.P., which became exercisable upon our entering a licensing agreement for PG-TXL with Chugai Pharmaceutical Co., Ltd. (see Note 9). We are obligated to meet certain development requirements by June 30, 2002 to maintain exclusive license rights.

We also entered into Signing Bonus and Restricted Stock and Share Grant Agreements and Consulting Agreements with certain individuals affiliated with PG-TXL Company, L.P. (the PG-TXL Affiliates). Under the terms of these agreements, we issued 51,835 restricted shares of common stock. These shares vested in November 1999 upon the issuance of a patent, whereupon we recorded an expense of $91,000 in accordance with EITF 96-18. The Company also granted 103,665 restricted share rights to the PG-TXL Affiliates, which also vest upon certain performance conditions. These performance conditions include successfully completing a phase III clinical trial of a licensed product and receiving regulatory approval of an NDA by the FDA. We will begin to record compensation expense at the time the vesting of the share rights become probable. We paid consulting fees to the PG-TXL Affiliates of $75,000, $111,000 and $343,000 in 2001, 2000 and 1999, respectively.

14. Acquisition of PolaRx Biopharmaceuticals, Inc.

On January 7, 2000, we acquired PolaRx Biopharmaceuticals, Inc. (PolaRx), a biopharmaceutical company that owns the rights to TRISENOX (arsenic trioxide, ATO), an anti-cancer compound for which we submitted and received approval for a New Drug Application with the FDA. Under the terms of the Agreement and Plan of Merger and Reorganization, dated January 7, 2000, (the Agreement), we assumed PolaRx's liabilities and commitments. PolaRx's shareholders received 5 million shares of our common stock. The aggregate consideration of $36.2 million consisted of the 5 million shares of common stock valued at $31.4 million, assumed net liabilities of $3.9 million and transaction costs of approximately $0.9 million.

We are also required to make contingent payments of up to $9.0 million and future royalties if certain milestones and target net sales specified in the merger agreement are attained. Any additional or contingent payments made to PolaRx shareholders will be considered additional purchase price and will be capitalized as additional goodwill. The acquisition was accounted for as a purchase transaction and PolaRx operating results are included in our operating results from the date of acquisition. The aggregate purchase price of approximately $36.2 million, which was valued by an outside independent party, was allocated, based on the fair value on the acquisition date, to marketing intangible assets ($16.1 million), patented technology ($6.7 million) and goodwill ($13.4 million). The intangible assets are amortized over their estimated useful lives of three to five years. Notes payable aggregating $2,673,000 were

assumed in connection with the PolaRx acquisition. The notes carried interest rates of 9% to 15% and became due and were paid between March and November 2000. We also assumed and paid a fee of $750,000 to a placement agent in connection with the acquisition.

The marketing of a commercial product bridges the gap in our pipeline of products and creates an opportunity to access a broader market segment with a relatively non-controversial and accepted product. The value of this marketing strategy is related to the acquisition of successfully completed clinical trial studies that included bioanalytical and statistical data, analyses and reports which have enabled the subsequent timely filing of a New Drug Application. The timely filing of the New Drug Application greatly enhances our relative competitive market position. The value of the preclinical and clinical research acquired together with the Orphan Drug Designation by the FDA accelerates the potential for regulatory approval and commercialization of a marketable product. The fair value of the marketing intangibles was determined by the replacement cost approach, which seeks to measure the future benefits of ownership by quantifying the amount of money that would be required to replace the future service capability of the subject intangible property. Replacement cost was the total cost to create a successful marketing strategy and included an examination of the substantial research and development cost savings we achieved through the acquisition of PolaRx.

Through the purchase of PolaRx, we also acquired a patent for the treatment of primary and metastic neoplastic diseases using arsenic compounds. By forecasting the incremental revenues and net incomes expected by the utilization of this patent in the areas of Acute Promyelocytic Leukemia (APL) and Multiple Myeloma over an expected five year period, it is possible to separate the value attributable to the patent by utilizing an income approach. The fair value of the patented technology was determined by discounting the forecasted earnings streams to each application at 30% over the anticipated revenue life of five years, which produced net present values of $2,018,000 and $4,594,000 for the APL and Multiple Myeloma indications, respectively.

The pro forma consolidated financial information for the year ended December 31, 1999, determined as if the acquisition had occurred on January 1, 1999, would have resulted in no revenues, a net loss applicable to common shareholders of $53,570,000 and basic and diluted net loss per common share of $2.61. Pro forma information for the period ended December 31, 2000 has not been included as the transaction was consummated on January 7, 2000, which is near the beginning of the period. This unaudited pro forma information is presented for illustrative purposes only and is not necessarily indicative of the results that would have been achieved had we and PolaRx been combined during the specified period.

15. PanGenex, Inc.

In June 2000, we founded PanGenex, Inc. (PanGenex), a majority-owned subsidiary focused on identifying novel drug development targets using the recently completed human genome sequence database. We provided funds and administrative services totaling $2,457,000 and $568,000 to support PanGenex's research and development efforts during 2001 and 2000, respectively. Minority interests are not reflected in the balance sheet as all losses of the entity are funded by us with no obligation of reimbursement by the minority shareholders.

16. Unaudited Quarterly Data

The following table presents summarized unaudited quarterly financial data (in thousands, except per share data):

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter

2001				
Revenues	$ 929	$ 1,886	$ 1,004	$ 2,417
Gross profit	879	1,803	846	2,314
Operating expenses	14,777	19,257	22,493	33,194
Net loss	(11,580)	(15,866)	(21,340)	(31,487)
Net loss applicable to common shares	(11,705)	(15,992)	(21,461)	(32,487)
Net loss per common share--basic and diluted	(0.35)	(0.47)	(0.64)	(0.95)
2000				
Revenues	$ --	$ --	$ --	$ 502
Gross profit	--	--	--	483
Operating expenses	11,355	12,392	14,618	18,039
Net loss	(11,069)	(11,832)	(13,980)	(15,048)
Net loss applicable to common shares	(11,195)	(11,958)	(14,108)	(15,176)
Net loss per common share--basic and diluted	(0.58)	(0.49)	(0.55)	(0.47)

Item 9. Changes in Disagreements with Accountants on Accounting and Financial Disclosure.

None.

PART III

The information required under Part III, Items 10, 11, 12, and 13, is included in our Proxy Statement relating to our annual meeting of shareholders, and is incorporated herein by reference. Such Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after the close of our fiscal year end, December 31, 2001.

PART IV

Item 14. Exhibits, Financial Statement Schedules And Reports On Form 8-K

(a) Financial Statements and Financial Statement Schedules

(i) Financial Statements

Report of Ernst & Young LLP, Independent Auditors
Consolidated Balance Sheets
Consolidated Statements of Operations
Consolidated Statements of Shareholders' Equity
Consolidated Statements of Cash Flows
Notes to Consolidated Financial Statements

(ii) Financial Statement Schedules

II--Valuation and Qualifying Accounts

All other schedules have been omitted since they are either not required, are not applicable, or the required information is shown in the financial statements or related notes.

(iii) Exhibits

Exhibit Number	Description
2.1(12)	Agreement and Plan of Reorganization between PolaRx Biopharmaceuticals, Inc., the Registrant and PolaRx Biopharmaceuticals Acquisition Corp., dated January 7, 2000.
3.1(1)	Registrant's Restated Articles of Incorporation.
3.2(2)	Registrant's Articles of Amendment to Restated Articles of Incorporation of Cell Therapeutics, Inc. Effecting a Reverse Stock Split.

3.3(3)	Registrant's Articles of Amendment to Restated Articles of Incorporation of Undesignating Series A and Series B Preferred Stock.

Exhibit Number	Description
3.4(4)	Registrant's Restated Bylaws.
4.1(5)	Form of Rights Agreement dated as of November 11, 1996, between the Registrant and Harris Trust Company of California, which includes the Form of Rights Certificate as Exhibit A, the Summary of Rights to Purchase Preferred Stock as Exhibit B and the Form of Certificate of Designation of the Series C Preferred Stock as Exhibit C.
10.1(6)	Lease Agreement between David A. Sabey and Sandra L. Sabey and the Registrant, dated March 27, 1992, as amended March 31, 1993 and October 13, 1993.
10.2(2)	Third Amendment to Lease Agreement between David A. Sabey and Sandra L. Sabey and the Registrant, dated as of September 10, 1996.
10.3(1)	Assignment of Lease between Manlove Travel and the Registrant, dated April 23, 1993.
10.4(2)	Letter Agreement between David A. Sabey, Sandra L. Sabey and the Registrant, dated as of September 6, 1996, amending the Assignment of Lease.
10.5(13)*	Employment Agreement between the Registrant and James A. Bianco, dated as of July 4, 2000.
10.6(6)*	Employment Agreement between the Registrant and Louis A. Bianco, dated as of February 1, 1992, as amended May 27, 1994.
10.7(7)*	Employment Agreement between the Registrant and Jack W. Singer, dated September 23, 1997.
10.8(2)*	Form of Strategic Management Team Severance Agreement.
10.9(1)*	1994 Equity Incentive Plan, as amended.
10.10(1)*	1996 Employee Stock Purchase Plan.

Exhibit Number	Description
10.11(6)+	Collaboration Agreement by and between BioChem Therapeutic Inc. and the Registrant, dated March 7, 1995, as amended November 30, 1995 and December 6, 1995.
10.12(6)+	Supply Agreement by and between BioChem Therapeutic Inc. and the Registrant, dated March 7, 1995.

Exhibit Number	Description
10.13(7)	Master Loan and Security Agreement between the Company and the Transamerica Business Credit Corporation, dated as of December 9, 1997.
10.14(10)+	License Agreement dated as of November 13, 1998, by and between

PG-TXL Company, L.P. and the Registrant.

10.15(10) Form of Promissory Note (executed on December 12, 1998), between the Registrant and each of the following persons: James A. Bianco, Jack W. Singer, and Louis A. Bianco.

10.16(14) Amended Equipment Leasing Agreement dated as of September 1, 2001, between Citiflight, Inc. and the Registrant.

10.17(14)+ Paclitaxel Purchase Agreement dated as of September 28, 2001, between Natural Pharmaceuticals, Inc. and the Registrant.

10.18(14)+ License Agreement dated as of October 19, 2001, between Chugai Pharmaceutical Co., Ltd. and the Registrant.

10.19* Form of Indemnification Agreement

10.20 ISDA Master Agreement dated as of January 25, 2002, between Citibank N.A. and the Registrant

21.1 Subsidiaries of the Registrant.

23.1 Consent of Ernst & Young LLP, Independent Auditors.

24.1 Power of Attorney (see page 70 of the Registrant's Annual report on Form 10-K for the year ended December 31, 2001).

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* Indicates management contract or compensatory plan or arrangement.
\+ Portions of these exhibits have been omitted pursuant to a request for confidential treatment.
(1) Incorporated by reference to exhibits to the Registrant's Registration Statement on Form S-1 (No. 33-4154).
(2) Incorporated by reference to the Registrant's Registration Statement on Form S-1 (No. 333-20855).
(3) Incorporated by reference to the Registrant's Registration Statement on Form S-3 (No. 333-36603).
(4) Incorporated by reference to exhibits to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1996.

(5) Incorporated by reference to exhibits to the Registrant's Registration Statement on Form 8-A.
(6) Incorporated by reference to exhibits to the Registrant's Registration Statement on Form 10.
(7) Incorporated by reference to exhibits to the Registrant's Annual Report on Form 10-K for the year ended December 31, 1997.
(8) Incorporated by reference to exhibits to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1998.
(9) Incorporated by reference to exhibits to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 1996.
(10) Filed with the Registrant's Annual Report on Form 10-K for the year ended December 31, 1998.
(11) Incorporated by reference to exhibits to the Registrant's Form 10-Q for the quarter ended September 30, 1997.
(12) Incorporated by reference to exhibits to the Registrant's Form 8-K, filed on January 25, 2000.
(13) Incorporated by reference to exhibits to the Registrant's amended Annual Report on Form 10-K/A for the year ended December 31, 2000.

(14) Incorporated by reference to exhibits to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2001.

(b) Reports on Form 8-K

There were no reports on Form 8-K filed by us during the quarter ended December 31, 2001.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Seattle, State of Washington, on March 29, 2002.

Cell Therapeutics, Inc.

By: /s/ James A. Bianco, M.D.
James A. Bianco, M.D.
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW BY ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints James A. Bianco and Louis A. Bianco, and each of them his attorney-in-fact, with the power of substitution, for him in any and all capacities, to sign any amendment of post-effective amendment to this Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that said attorney-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ Max E. Link, Ph.D. Max E. Link, Ph.D.	Chairman of the Board and Director	March 29, 2002
/s/ James A. Bianco, M.D. James A. Bianco, M.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	March 29, 2002
/s/ Louis A. Bianco Louis A. Bianco	Executive Vice President, Finance and Administration (Principal Financial Officer and Principal Accounting Officer)	March 29, 2002
/s/ Jack W. Singer M.D. Jack W. Singer M.D.	Director	March 29, 2002
/s/ Jack L. Bowman Jack L. Bowman	Director	March 29, 2002
/s/ Vartan Gregorian Vartan Gregorian	Director	March 29, 2002

Signature	Title	Date
/s/ Wilfred E. Jaeger, M.D. Wilfred E. Jaeger, M.D.	Director	March 29, 2002
/s/ Mary O. Mundinger, DrPH		

Mary O. Mundinger, DrPH	Director	March 29, 2002
/s/ Phillip M. Nudelman, Ph.D.		
Phillip M. Nudelman, Ph.D.	Director	March 29, 2002

SCHEDULE II

CELL THERAPEUTICS, INC.

VALUATION AND QUALIFYING ACCOUNTS
YEARS ENDED DECEMBER 31, 2001 and 2000
(in thousands)

	Balance at Beginning of Period	Additions Charged to Expense	Deductions	Balance at End of Period
Year ended December 31, 2000 Reserve for sales returns and allowances.....	$ --	$ 67	$ --	$ 67
Year ended December 31, 2001 Reserve for sales returns and allowances.....	$ 67	$ 322	$ --	$ 389
Year ended December 31, 2001 Reserve for excess inventory that may expire and become unsaleable.....	$ --	$ 96	$ --	$ 96

EXHIBIT 10.19

INDEMNITY AGREEMENT

INDEMNITY AGREEMENT, dated as of _____, 2002 (this "Agreement"), by and between Cell Therapeutics, Inc. (the "Company"), a Washington corporation, and _____ ("Indemnitee").

W I T N E S S E T H:

WHEREAS, the Company desires to attract and retain the services of able persons to serve as officers and directors of the Company and to indemnify certain of its officers, and its directors, except as otherwise provided in Section 3 of this Agreement, to the fullest extent of the law;

WHEREAS, the Company and Indemnitee recognize the increasing difficulty in obtaining officers' and directors' liability insurance, the significant increase in the cost of such insurance and the general reduction in the coverage of such insurance;

WHEREAS, the Company and Indemnitee further recognize the substantial increase in corporate litigation in general, subjecting officers and directors to expensive litigation risks at the same time that liability insurance has been severely limited; and

WHEREAS, neither Indemnitee nor the Company regards statutory indemnification protection as adequate given the present circumstances;

NOW, THEREFORE, the Company and Indemnitee hereby agree as follows:

1. (a) Third-Party Proceedings. The Company shall indemnify Indemnitee to the full extent of Washington law, except as otherwise provided in Section 3 of this Agreement, if Indemnitee is or was a party or is threatened to be made a party to any threatened, pending or completed suit, action, proceeding, arbitration or alternative dispute resolution mechanism, whether civil, criminal, administrative or investigative (other than an action by or in the right of the Company) by reason of the fact that Indemnitee is or was a director, officer, employee or agent of the Company or any subsidiary of the Company, by reason of any action or inaction on the part of Indemnitee while an officer or director of the Company or any subsidiary of the Company or by reason of the fact that Indemnitee is or was serving at the request of the Company as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement (if such settlement is approved in advance by the Company, which approval shall not be unreasonably withheld) actually and reasonably incurred by Indemnitee in connection with such action or proceeding if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company and its stockholders, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful.

(b) Proceedings By or in the Right of the Company. The Company shall indemnify Indemnitee to the full extent of Washington law, except as otherwise provided in Section 3 of this Agreement, if Indemnitee is or was a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding by or in the right of the Company or any subsidiary of the Company to procure a judgment in its favor by reason of the fact that Indemnitee is or was a director, officer, employee or agent of the Company or any subsidiary of the Company, by reason of any action or inaction on the part of Indemnitee while an officer or director of the Company or any subsidiary of the Company or by reason of the fact that Indemnitee is or was serving at the request of the Company as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees) and, to the fullest extent permitted by Washington law, amounts paid in settlement (if such settlement is approved by

the Company, which approval shall not be unreasonably withheld), in each case to the extent actually and reasonably incurred by Indemnitee in connection with the defense or settlement of such action or proceeding if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company and its stockholders, except that no indemnification shall be made in respect of any claim, issue or matter as to which Indemnitee shall have been adjudged to be liable to the Company and its stockholders in the performance of Indemnitee's duty to the Company and its stockholders unless and only to the extent that the court in which such action or proceeding is or was pending shall determine that in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnity for expenses, and then only to the extent that the court shall determine.

(c) Selection of Counsel. In the event the Company shall be obligated under Section 1(a) or (b) hereof to pay the expenses of any proceeding against Indemnitee, the Company shall be entitled to assume the defense of such proceeding, with counsel approved by Indemnitee (which shall not unreasonably withhold such approval), upon the delivery to Indemnitee of written notice of its election so to do. After delivery of such notice, approval of such counsel by Indemnitee and the retention of such counsel by the Company, the Company will not be liable to Indemnitee under this Agreement for any fees of counsel subsequently incurred by Indemnitee with respect to the same proceeding, provided, that, (i) Indemnitee shall have the right to employ his counsel in any such proceeding at Indemnitee's expense; and (ii) if (A) the employment of counsel by Indemnitee has been previously authorized in writing by the Company, (B) Indemnitee shall have reasonably concluded that there may be a conflict of interest between the Company and Indemnitee in the conduct of any such defense and shall have notified the Company in writing thereof, (C) Indemnitee shall have reasonably concluded that there may be a conflict of interest between Indemnitee and other indemnitees of the Company being represented by counsel retained by the Company in the same proceeding and shall have notified the Company in writing thereof or (D) the Company shall not, in fact, have employed counsel to assume the defense of such proceeding, then the fees and expenses of Indemnitee's counsel shall be at the expense of the Company.

2. Contribution. If, when Indemnitee has met the applicable standard of conduct, the indemnification provisions set forth in Section 1 should, under applicable law, be to any extent unenforceable, then the Company agrees that it shall be treated as though it is or was a party to the threatened, pending or completed action, suit or proceeding in which Indemnitee is or was involved and that the Company shall contribute to the amounts paid or payable by Indemnitee as a result of such expenses (including attorneys' fees), judgments in third-party proceedings, fines and amounts paid in settlement actually and reasonably incurred by Indemnitee in such proportion as is appropriate to reflect the relative fault of the Company on the one hand and Indemnitee on the other in connection with such action or inaction, or alleged action or inaction, as well as any other relevant equitable considerations.

For purposes of this Section 2, the relative benefit to the Company shall be deemed to be the benefits accruing to it and to all of its directors, officers, employees and agents (other than Indemnitee), as a group and treated as one entity, and the relative benefit to Indemnitee shall be deemed to be an amount not greater than Indemnitee's yearly base salary or director's compensation from the Company during the first year in which the action or inaction, or alleged action or inaction, forming the basis for the threatened, pending or contemplated suit, action or proceeding was alleged to have occurred plus the amount, if any, of monetary benefit and other consideration received by Indemnitee in the transaction(s) that gave rise to such suit, action or proceeding. The relative fault shall be determined by reference to, among other things, the fault of the Company and all of its directors, officers, employees and agents (other than Indemnitee), as a group and treated as one entity, and such group's relative intent, knowledge, access to information and opportunity to have altered or prevented the action or inaction, or alleged action or inaction, forming the basis for the threatened, pending or contemplated action, suit or proceeding, and Indemnittee's relative fault in light of such factors on the other hand.

3. Limitations to Rights of Indemnification and Advancement of Expenses.

Except as otherwise provided in Sections 9 and 11 of this Agreement, Indemnitee shall not be entitled to indemnification or advancement of expenses under this Agreement:

(a) with respect to any action, suit or proceeding initiated, brought or made by Indemnitee (i) against the Company, unless a Change in Control (as defined in Section 5(b) of this Agreement) shall have occurred, or (ii) against any person other than the Company, unless approved in advance by the board of directors of the Company (the "Board");

(b) on account of any suit in which it shall be determined by final judgment by a court having jurisdiction in the matter that Indemnitee intentionally caused or intentionally contributed to the injury complained of with the knowledge that such injury would occur;

(c) on account of Indemnitee's conduct which shall be determined by final judgment by a court having jurisdiction in the matter that Indemnitee was knowingly fraudulent, deliberately dishonest, engaged in willful misconduct or that Indemnitee

received an improper personal benefit;

(d) for any expenses incurred by Indemnitee with respect to any proceeding instituted by Indemnitee to enforce or interpret this Agreement, to the extent that a court of competent jurisdiction determines that any of the material assertions made by Indemnitee in such proceeding was not made in good faith or was frivolous;

(e) for expenses or liabilities of any type whatsoever (including, but not limited to, judgments, fines, ERISA excise taxes or penalties and amounts paid in settlement) which have been paid directly to Indemnitee by an insurance carrier under a policy of officers' and directors' liability insurance maintained by the Company;

(f) for expenses or the payment of profits arising from the purchase and sale by Indemnitee of securities in violation of Section 16(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or any similar successor statute; and

(g) if it shall be determined by final judgment by a court having jurisdiction in the matter that such indemnification is not lawful.

4. Procedure for Determination of Entitlement to Indemnification. (a) To obtain indemnification under this Agreement, Indemnitee shall submit to the Company a written request, including such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification. The Secretary of the Company shall, promptly upon receipt of such a request for indemnification, advise the Board in writing that Indemnitee has requested indemnification.

(b) Upon written request by Indemnitee for indemnification, a determination with respect to Indemnitee's entitlement thereto shall be made in the specific case as follows:

(i) if a Change in Control (as defined in Section 5(b) of this Agreement) shall have occurred, by Independent Counsel (as defined in Section 5(a) of this Agreement) in a written opinion to the Board, a copy of which shall be delivered to Indemnitee (unless Indemnitee shall request that such determination be made by the Board or the Stockholders, in which case the determination shall be made in the manner provided below in clause (ii)); or

(ii) if a Change in Control shall not have occurred, (A) by the Board by a majority vote of a quorum consisting of disinterested directors, (B) if a quorum of the Board consisting of disinterested directors is not obtainable or, even if obtainable, such quorum of disinterested directors so directs, by Independent Counsel in a written opinion to the Board, a

copy of which shall be delivered to Indemnitee or (C) by the Stockholders of the Company.

(c) If it is so determined that Indemnitee is entitled to indemnification,

payment to Indemnitee shall be made within ten (10) days after such determination. Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information that is not privileged or otherwise protected from disclosure and that is reasonably available to indemnitee and reasonably necessary to such determination. Any costs or expenses (including attorneys' fees and disbursements) incurred by Indemnitee in so cooperating shall be borne by the Company (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Company hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(d) If a Change in Control shall not have occurred, the Independent Counsel shall be selected by the Board, and the Company shall give written notice to Indemnitee advising him of the identity of the Independent Counsel so selected. If a Change in Control shall have occurred, the Independent Counsel shall be selected by Indemnitee (unless Indemnitee shall request that such selection be made by the Board), and Indemnitee shall give written notice to the Company advising it of the identity of the Independent Counsel so selected. In either event, Indemnitee or the Company, as the case may be, may, within 7 days after such written notice of selection shall have been given, deliver to the Company or to Indemnitee, as the case may be, a written objection to such selection. Such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 5(a) of this Agreement, and the objection shall set forth with particularity the factual basis of such assertion. If such written objection is made, the Independent Counsel so selected may not serve as Independent Counsel unless and until a court has determined that such objection is without merit. If, twenty (20) days after submission by Indemnitee of a written request for indemnification pursuant to Section 4 hereof, no Independent Counsel shall have been selected or if selected, shall have been objected to, in accordance with this Section 4(d), either the Company or Indemnitee may petition any court of the State of Washington or other court of competent jurisdiction for resolution of any objection which shall have been made by the Company or Indemnitee to the other's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by the court or by such other person as the court shall designate. The person with respect to whom an objection is favorably resolved or the person so appointed shall act as Independent Counsel under Section 4 hereof. The Company shall pay any and all reasonable fees and expenses incident to the procedures of this Section 4, including reasonable fees and expenses incurred by such Independent Counsel regardless of the manner in which such Independent Counsel was selected or appointed.

5. (a) "Independent Counsel" means a law firm or a member of a law firm that neither at the time in question, nor in the five years immediately preceding such time has been retained to represent (i) the Company or Indemnitee in any matter material to either such party or (ii) any other party to the proceeding giving rise to a claim for indemnification under this Agreement. Notwithstanding the foregoing, the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing under the law of the state of Washington, would be precluded from representing either the Company or Indemnitee in an action to determine Indemnitee's rights under this Agreement.

(b) "Change in Control" means the occurrence of any of the following events:

(i) the Company is merged, consolidated or reorganized into or with another corporation or other entity, and as a result of such merger, consolidation or reorganization less than a majority of the combined voting

power of the then-outstanding securities of such corporation or entity immediately after such transaction are held in the aggregate by the holders of voting stock of the Company immediately prior to such transaction;

(ii) the Company sells or otherwise transfers all or substantially all of its assets to another corporation or other entity and, as a result of such sale or transfer, less than a majority of the combined voting power of the then-outstanding securities of such other corporation or entity immediately after such sale or transfer is held in the aggregate by the holders of voting stock of the Company immediately prior to such sale or transfer;

(iii) there is a report filed on Schedule 13D or Schedule 14D-1 (or any successor schedule, form or report or item therein), each as promulgated pursuant to the Exchange Act, disclosing that any person or entity, other than any shareholder of the Company (and its affiliates) owning 10% or more of the Company's voting stock on the date hereof, has become the beneficial owner (as the term "beneficial owner" is defined under Rule 13d-3 or any successor rule or regulation promulgated under the Exchange Act) of securities representing 50% or more of the combined voting power of the Company's voting stock; or

(iv) if during any period of two consecutive years individuals who at the beginning of any such period constitute the Board cease for any reason to constitute at least a majority thereof; provided, however, that
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for purposes of this clause (iv) each director of the Company who is first elected, or first nominated for election by the Company's stockholders, by a vote of at least majority of the directors of the Company (or a committee of the Board) then still in office who were directors of the Company at the beginning of any such period shall be deemed to have been a director of the Company at the beginning of such period.

Notwithstanding the provisions of clause (iii) above, unless otherwise determined in the specific case by majority vote of the Board, a "Change in Control" shall not be deemed to have occurred solely because the Company, any subsidiary or any employee stock ownership plan or any other employee benefit plan of the Company or any subsidiary either files or becomes obligated to file a report or a proxy statement under or in response to Schedule 13D, Schedule 14D-1 or Schedule 14A (or any successor schedule, form or report or item therein) under the Exchange Act disclosing beneficial ownership by it of shares of voting stock of the Company, whether in excess of 50% or otherwise, or because the Company reports that a change in control of the company has occurred or will occur in the future by reason of such beneficial ownership.

6. Presumptions and Effect of Certain Proceedings. (a) In making a
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determination with respect to entitlement to indemnification hereunder, the person, persons or entity making such determination shall presume that Indemnitee is entitled to indemnification under this Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 4 of this Agreement, and the Company shall bear the burden of proof to rebut that presumption in connection with the making by any person, persons or entity of any determination contrary to that presumption.

(b) The termination of any action, suit, arbitration, alternative dispute resolution mechanism, investigation, administrative hearing or other proceeding whether civil, criminal, administrative or investigative or of any claim, issue or matter therein by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not
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(except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal action or proceeding, that Indemnitee had reasonable cause to believe that his conduct was unlawful.

(c) Indemnitee's conduct with respect to an employee benefit plan for a purpose he reasonably believed to be in the interests of the participants in and beneficiaries of the plan shall be deemed to be conduct that

Indemnitee reasonably believed to be in or not opposed to the best interests of the Company.

(d) For purposes of any determination hereunder, Indemnitee shall be deemed to have acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the Company, or, with respect to any criminal action or proceeding, to have had no reasonable cause to believe his conduct was unlawful, if his action was based on (i) the records or books of account of the Company or another enterprise, including financial statements, (ii) information supplied to him by the officers of the Company or another enterprise in the course of their duties, (iii) the advice of legal counsel for the Company or another enterprise, or (iv) information or records given or reports made to the Company or another enterprise by an independent certified public accountant or by an appraiser or other expert selected with reasonable care by the Company or another enterprise. The term "another enterprise" as used in this Section 6 shall mean any other corporation or any partnership, joint venture, trust, employee benefit plan or other enterprise of which Indemnitee is or was serving at the request of the Company as an officer, director, partner, trustee, employee or agent. The provisions of this Section 6(d) shall not be deemed to limit in any way the other circumstances in which Indemnitee may be deemed to have met the applicable standard of conduct set forth in Section 1.

7. Success on Merits or Otherwise. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee has been successful on the merits or otherwise in defense of any action, suit or proceeding described in Section 1 hereof, or in defense of any

claim, issue or matter therein, he shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by him in connection with the investigation, defense, settlement or appeal thereof. For purposes of this Section 7, the term "successful on the merits or otherwise" shall include, but not be limited to, (i) any termination, withdrawal or dismissal (with or without prejudice) of any claim, action, suit or proceeding against Indemnitee without any express finding of liability or guilt against him, (ii) the expiration of 180 days after the making of any claim or threat of an action, suit or proceeding without the institution of the same and without any promise of payment or payment made to induce a settlement or (iii) the settlement of any action, suit or proceeding under Section 1, pursuant to which Indemnitee pays less than $25,000.

8. Partial Indemnification. If Indemnitee is entitled under any provision of this Agreement to indemnification by the Company for some or a portion of the claims, damages, expenses (including attorneys' fees), judgments, fines or amounts paid in settlement by Indemnitee in connection with the investigation, defense, settlement or appeal of any action specified in Section 1, but not, however, for the total amount thereof, the Company shall nevertheless indemnify Indemnitee for the portion thereof to which Indemnitee is entitled. The party or parties making the determination shall determine the portion (if less than all) of such claims, damages, expenses (including attorneys' fees), judgments, fines or amounts paid in settlement for which Indemnitee is entitled to indemnification under this Agreement.

9. Costs. All the costs of making the determination required by Section 4 hereof shall be borne solely by the Company, including, but not limited to, the costs of legal counsel, proxy solicitations and judicial determinations. The Company shall also be solely responsible for paying (i) all reasonable expenses incurred by Indemnitee to enforce this Agreement, including, but not limited to, the costs incurred by Indemnitee to obtain court-ordered indemnification pursuant to Section 11, regardless of the outcome of any such application or proceeding, and (ii) all costs of defending any suits or investigations or proceedings challenging payments to Indemnitee under this Agreement.

10. Advance of Expenses. The Company shall advance all expenses incurred by or on behalf of Indemnitee in connection with any action, suit, arbitration, alternative dispute resolution mechanism, investigation,

administrative hearing or any other proceeding whether civil, criminal, administrative or investigative within twenty (20) days after the receipt by the Company of a statement or statements from Indemnitee requesting such advance or advances from time to time, whether prior to or after final disposition of such action, suit, arbitration, alternative dispute resolution mechanism, investigation, administrative hearing or any other proceeding whether civil, criminal, administrative or investigative. Such statement or statements shall reasonably evidence the expenses incurred by Indemnitee and shall include or be preceded or accompanied by an undertaking by or on behalf of Indemnitee to repay any expenses advanced if it shall ultimately be determined that Indemnitee is not entitled to be indemnified against such expenses, which undertaking shall be accepted by or on behalf of the Company without reference to the financial ability of Indemnitee to make repayment, and without the pledging of any security by Indemnitee. Notwithstanding Indemnitee's above-described rights to advancement of

expenses, no advance of expenses shall be made in the circumstances proscribed by Section 3(a).

11. Enforcement. (a) If a claim for indemnification or advancement of expenses made to the Company pursuant to Section 3 or 10 is not timely paid in full to Indemnitee by the Company as required by Section 3 or 10, respectively, Indemnitee shall be entitled to seek judicial enforcement of the Company's obligations to make such payment. In the event that a determination is made that Indemnitee is not entitled to indemnification or advancement of expenses hereunder, (i) Indemnitee may at any time thereafter seek a de novo adjudication of his entitlement to such indemnification or advancement either, at Indemnitee's sole option, in (A) an appropriate court of the state of Washington or any other court of competent jurisdiction or (B) an arbitration to be conducted by a single arbitrator pursuant to the rules of the American Arbitration Association; (ii) any such judicial proceeding or arbitration shall not in any way be prejudiced by, and Indemnitee shall not be prejudiced in any way by such adverse determination; and (iii) in any such judicial proceeding or arbitration the Company shall have the burden of proving that Indemnitee is not entitled to indemnification or advancement of expenses under this Agreement.

(b) The Company shall be precluded from asserting in any judicial proceeding or arbitration commenced pursuant to the provisions of Section 11(a) that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court or before any such arbitrator that the Company is bound by all the provisions of this Agreement.

(c) In any action brought under this Section 11, it shall be a defense to a claim for indemnification (other than an action brought to enforce a claim for advancement of expenses) that Indemnitee has not met the standards of conduct which make it permissible under Washington law for the Company to indemnify Indemnitee for the amount claimed. The burden of proving such defense shall be on the Company.

(d) It is the intent of the Company that Indemnitee not be required to incur the expenses associated with the enforcement of his rights under this Agreement by litigation or other legal action because the cost and expense thereof would substantially detract from the benefits intended to be extended to Indemnitee hereunder. Accordingly, if it should appear to Indemnitee that the Company has failed to comply with any of its obligations under this Agreement or in the event that the Company or any other person takes any action to declare this Agreement void or unenforceable, or institutes any action, suit or proceeding designed (or having the effect of being designed) to deny, or to recover from, Indemnitee the benefits intended to be provided to Indemnitee hereunder, the Company irrevocably authorizes Indemnitee from time to time to retain counsel of his choice, at the expense of the Company as hereafter provided, to represent Indemnitee in connection with the initiation or defense of any litigation or other legal action, whether by or against the Company or any director, officer, stockholder or other person affiliated with the Company, in any jurisdiction. Regardless of the outcome thereof, but subject to Indemnitee having acted in good faith, the Company shall pay and be solely responsible for any and all costs, charges and expenses, including attorneys' and others' fees and expenses,

incurred by Indemnitee (i) as a result of the Company's failure to perform this Agreement or any provision thereof or (ii) as a result of the Company's or any person's contesting the validity or enforceability of this Agreement or any provision thereof as aforesaid.

12. Liability Insurance and Funding. To the extent the Company maintains an insurance policy or policies providing directors' and officers' liability insurance, Indemnitee shall be covered by such policy or policies, in accordance with its or their terms, to the maximum extent of the coverage available for any director or officer of the Company. If, at the time of the receipt of a notice of a claim pursuant to Section 4 hereof, the Company has director's and officer's liability insurance in effect, the Company shall give prompt notice of the commencement of such proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of Indemnitee, all amounts payable as a result of such proceeding in accordance with the terms of such policies. The Company shall have no obligation to obtain or maintain such insurance.

13. Merger or Consolidation. In the event that the Company shall be a constituent corporation in a merger, consolidation or other reorganization, the Company shall require as a condition thereto, (a) if it shall not be the surviving, resulting or other corporation therein, the surviving, resulting or acquiring corporation to agree to indemnify Indemnitee to the full extent provided herein, and (b) whether or not the Company is the surviving, resulting or acquiring corporation therein, Indemnitee shall also stand in the same position under this Agreement with respect to the surviving, resulting or acquiring corporation as he would have with respect to the Company if its separate existence had continued.

14. Nondisclosure of Payments. Except as expressly required by federal securities laws or other applicable laws, Indemnitee shall not disclose any payments made under this Agreement, whether indemnification or advancement of expenses, unless prior approval of the Company is obtained. Any payments to Indemnitee that must be disclosed shall, unless otherwise required by law, be described only in the Company proxy or information statements relating to special and/or annual meetings of the Company's shareholders, and the Company shall afford Indemnitee the reasonable opportunity to review all such disclosures and, if requested, to explain in such statement any mitigating circumstances regarding the events reported.

15. Nonexclusivity and Severability. (a) The right to indemnification and advancement of expenses provided by this Agreement shall not be exclusive of any other rights to which Indemnitee may be entitled under the Certificate of Incorporation or Bylaws of the Company, Washington law, any other statute, insurance policy, agreement, vote of stockholders of the Company or of the Board (or otherwise), both as to actions in his official capacity and as to actions in another capacity while holding such office, and shall continue after Indemnitee has ceased to be a director or officer of the Company and shall inure to the benefit of his heirs, executors and administrators; provided, however, that to the extent Indemnitee otherwise would have any greater right to indemnification and/or advancement of expenses under any provision of the Certificate of Incorporation or the Bylaws of the Company, Indemnitee shall be deemed to

have such greater right pursuant to this Agreement; and, provided, further, that to the extent that any change is made to the Washington law (whether by legislative action or judicial decision), the Certificate of Incorporation and/or the Bylaws that permits any greater right to indemnification and/or advancement of expenses than that provided under this Agreement as of the date hereof, Indemnitee shall be deemed to have such greater right pursuant to this Agreement.

(b) If any provision or provisions of this Agreement are held to be invalid, illegal or unenforceable for any reason whatsoever: (i) the validity, legality and enforceability of the remaining provisions of this Agreement (including without limitation all portions of any provisions of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that are not themselves invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and (ii) to the fullest extent possible, the provisions of this Agreement (including without limitation all portions of any provisions of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that are not themselves invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested by the provision held invalid, illegal or unenforceable.

16. Notices. All notices, requests, demands and other communications under this Agreement shall be in writing and shall be deemed duly given (i) if delivered by hand and receipted for by the party addressed, on the date of such receipt, or (ii) if mailed by domestic certified or registered mail with postage prepaid, on the third business day after the date postmarked. Addresses for notice to either party are as shown on the signature page of this Agreement, or as subsequently modified by written notice.

17. Mutual Acknowledgment. Both the Company and Indemnitee acknowledge that in certain instances federal law or public policy may override applicable state law and prohibit the Company from indemnifying its directors and officers under this Agreement or otherwise. For example, the Company and Indemnitee acknowledge that the Securities and Exchange Commission (the "SEC") has taken the position that indemnification is not permissible for liabilities arising under certain federal securities laws, and federal legislation prohibits indemnification for certain ERISA violations. Indemnitee understands and acknowledges that the Company has undertaken or may be required in the future to undertake with the SEC to submit the question of indemnification to a court in certain circumstances for a determination of the Company's right under public policy to indemnify Indemnitee.

18. Governing Law/Effectiveness. This Agreement shall be governed by and construed in accordance with the laws of the state of Washington, without giving effect to principles of conflict of laws. This Agreement shall become effective on the date that the Indemnitee began or begins to serve as an officer or director of the Company.

19. Consent to Jurisdiction. The Company and Indemnitee each hereby irrevocably consent to the jurisdiction of the courts of the state of Washington for all purposes in connection with any action, suit or proceeding which arises out of or relates to this Agreement.

20. Modification; Survival. This Agreement may be modified only by an instrument in writing signed by both parties hereto. The provisions of this Agreement shall survive the death, disability or incapacity of Indemnitee or the termination of Indemnitee's service as a director or officer of the Company and shall inure to the benefit of Indemnitee's heirs, executors and administrators.

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

INDEMNITEE

By:_____
Name:

CELL THERAPEUTICS, INC.
501 Elliott Avenue West
Suite 400
Seattle, Washington 98119
Attention: President

By:_____
Name:

Address:_____ Title:
_____
_____

EXHIBIT 10.20

(Multicurrency -- Cross Border)

ISDA(R)

International Swap Dealers Association, Inc.

MASTER AGREEMENT

dated as of January 25, 2002

CITIBANK, N.A. and CELL THERAPEUTICS CORPORATE DEVELOPMENT INC. have entered and/or anticipate entering into one or more transactions (each a "Transaction") that are or will be governed by this Master Agreement, which includes the schedule (the "Schedule"), and the documents and other confirming evidence (each a "Confirmation") exchanged between the parties confirming those Transactions.

Accordingly, the parties agree as follows: --

1. Interpretation

(a) Definitions. The terms defined in Section 14 and in the Schedule will have the meanings therein specified for the purpose of this Master Agreement.

(b) Inconsistency. In the event of any inconsistency between the provisions of the Schedule and the other provisions of this Master Agreement, the Schedule will prevail. In the event of any inconsistency between the provisions of any Confirmation and this Master Agreement (including the Schedule), such Confirmation will prevail for the purpose of the relevant Transaction.

(c) Single Agreement. All Transactions are entered into in reliance on the fact that this Master Agreement and all Confirmations form a single agreement between the parties (collectively referred to as this "Agreement"), and the parties would not otherwise enter into any Transactions.

2. Obligations

(a) General Conditions.

(i) Each party will make each payment or delivery specified in each Confirmation to be made by it, subject to the other provisions of this Agreement.

(ii) Payments under this Agreement will be made on the due date for value on that date in the place of the account specified in the relevant Confirmation or otherwise pursuant to this Agreement, in freely transferable funds and in the manner customary for payments in the required currency. Where settlement is by delivery (that is, other than by payment), such delivery will be made for receipt on the due date in the manner customary for the relevant obligation unless otherwise specified in the relevant Confirmation or elsewhere in this Agreement.

(iii) Each obligation of each party under Section 2(a)(i) is subject to (1) the condition precedent that no Event of Default or Potential Event of Default with respect to the other party has occurred and is continuing, (2) the condition precedent that no Early Termination Date in respect of the relevant Transaction has occurred or been effectively designated and (3) each other applicable condition precedent specified in this Agreement.

(b) Change of Account. Either party may change its account for receiving a payment or delivery by giving notice to the other party at least five Local Business Days prior to the scheduled date for the payment or delivery to which such change applies unless such other party gives timely notice of a reasonable objection to such change.

(c) Netting. If on any date amounts would otherwise be payable:--

(i) in the same currency; and

(ii) in respect of the same Transaction,

by each party to the other, then, on such date, each party's obligation to make payment of any such amount will be automatically satisfied and discharged and, if the aggregate amount that would otherwise have been payable by one party exceeds the aggregate amount that would otherwise have been payable by the other party, replaced by an obligation upon the party by whom the larger aggregate amount would have been payable to pay to the other party the excess of the larger aggregate amount over the smaller aggregate amount.

The parties may elect in respect of two or more Transactions that a net amount will be determined in respect of all amounts payable on the same date in the same currency in respect of such Transactions, regardless of whether such amounts are payable in respect of the same Transaction. The election may be made in the Schedule or a Confirmation by specifying that subparagraph (ii) above will not apply to the Transactions identified as being subject to the election, together with the starting date (in which case subparagraph (ii) above will not, or will cease to, apply to such Transactions from such date). This election may be made separately for different groups of Transactions and will apply separately to each pairing of Offices through which the parties make and receive payments or deliveries.

(d) Deduction or Withholding for Tax.

(i) Gross-Up. All payments under this Agreement will be made without any deduction or withholding for or on account of any Tax unless such deduction or withholding is required by any applicable law, as modified by the practice of any relevant governmental revenue authority, then in effect. If a party is so required to deduct or withhold, then that party ("X") will:--

(1) promptly notify the other party ("Y") of such requirement;

(2) pay to the relevant authorities the full amount required to be deducted or withheld (including the full amount required to be deducted or withheld from any additional amount paid by X to Y under this Section 2(d)) promptly upon the earlier of determining that such deduction or withholding is required or receiving notice that such amount has been assessed against Y;

(3) promptly forward to Y an official receipt (or a certified copy), or other documentation reasonably acceptable to Y, evidencing such payment to such authorities; and

(4) if such Tax is an Indemnifiable Tax, pay to Y, in addition to the payment to which Y is otherwise entitled under this Agreement, such additional amount as is necessary to ensure that the net amount actually received by Y (free and clear of Indemnifiable Taxes, whether assessed against X or Y) will equal the full amount Y would have received had no such deduction or withholding been required. However, X will not be required to pay any additional amount to Y to the extent that it would not be required to be paid but for:--

(A) the failure by Y to comply with or perform any agreement contained in Section 4(a)(i), 4(a)(iii) or 4(d); or

(B) the failure of a representation made by Y pursuant to Section 3(f) to be accurate and true unless such failure would not have occurred but for (I) any action taken by a taxing authority, or brought in a court of competent jurisdiction, on or after the date on which a Transaction is entered into (regardless of whether such action is taken or brought with respect to a party to this Agreement) or (II) a Change in Tax Law.

(ii) Liability. If:--

(1) X is required by any applicable law, as modified by the practice of any relevant governmental revenue authority, to make any deduction or withholding in respect of which X would not be

required to pay an additional amount to Y under Section 2(d)(i)(4);

(2) X does not so deduct or withhold; and

(3) a liability resulting from such Tax is assessed directly against X,

then, except to the extent Y has satisfied or then satisfies the liability resulting from such Tax, Y will promptly pay to X the amount of such liability (including any related liability for interest, but including any related liability for penalties only if Y has failed to comply with or perform any agreement contained in Section 4(a)(i), 4(a)(iii) or 4(d)).

(e) Default Interest; Other Amounts. Prior to the occurrence or effective designation of an Early Termination Date in respect of the relevant Transaction, a party that defaults in the performance of any payment obligation will, to the extent permitted by law and subject to Section 6(c), be required to pay interest (before as well as after judgment) on the overdue amount to the other party on demand in the same currency as such overdue amount, for the period from (and including) the original due date for payment to (but excluding) the date of actual payment, at the Default Rate. Such interest will be calculated on the basis of daily compounding and the actual number of days elapsed. If, prior to the occurrence or effective designation of an Early Termination Date in respect of the relevant Transaction, a party defaults in the performance of any obligation required to be settled by delivery, it will compensate the other party on demand if and to the extent provided for in the relevant Confirmation or elsewhere in this Agreement.

3. Representations

Each party represents to the other party (which representations will be deemed to be repeated by each party on each date on which a Transaction is entered into and, in the case of the representations in Section 3(f), at all times until the termination of this Agreement) that:--

(a) Basic Representations.

(i) Status. It is duly organised and validly existing under the laws of the jurisdiction of its organisation or incorporation and, if relevant under such laws, in good standing;

(ii) Powers. It has the power to execute this Agreement and any other documentation relating to this Agreement to which it is a party, to deliver this Agreement and any other documentation relating to this Agreement that it is required by this Agreement to deliver and to perform its obligations under this Agreement and any obligations it has under any Credit Support Document to which it is a party and has taken all necessary action to authorise such execution, delivery and performance;

(iii) No Violation or Conflict. Such execution, delivery and performance do not violate or conflict with any law applicable to it, any provision of its constitutional documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;

(iv) Consents. All governmental and other consents that are required to have been obtained by it with respect to this Agreement or any Credit Support Document to which it is a party have been obtained and are in full force and effect and all conditions of any such consents have been complied with; and

(v) Obligations Binding. Its obligations under this Agreement and any Credit Support Document to which it is a party constitute its legal, valid and binding obligations, enforceable in accordance with their respective terms (subject to applicable bankruptcy, reorganisation, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law)).

(b) Absence of Certain Events. No Event of Default or Potential Event of Default or, to its knowledge, Termination Event with respect to it has occurred and is continuing and no such event or circumstance would occur as a result of its entering into or performing its obligations under this Agreement or any Credit Support Document to which it is a party.

(c) Absence of Litigation. There is not pending or, to its knowledge, threatened against it or any of its Affiliates any action, suit or proceeding at law or in equity or before any court, tribunal, governmental body, agency or official or any arbitrator that is likely to affect the legality, validity or enforceability against it of this Agreement or any Credit Support Document to which it is a party or its ability to perform its obligations under this Agreement or such Credit Support Document.

(d) Accuracy of Specified Information. All applicable information that is furnished in writing by or on behalf of it to the other party and is identified for the purpose of this Section 3(d) in the Schedule is, as of the date of the information, true, accurate and complete in every material respect.

(e) Payer Tax Representation. Each representation specified in the Schedule as being made by it for the purpose of this Section 3(e) is accurate and true.

(f) Payee Tax Representations. Each representation specified in the Schedule as being made by it for the purpose of this Section 3(f) is accurate and true.

4. Agreements

Each party agrees with the other that, so long as either party has or may have any obligation under this Agreement or under any Credit Support Document to which it is a party:--

(a) Furnish Specified Information. It will deliver to the other party or, in certain cases under subparagraph (iii) below, to such government or taxing authority as the other party reasonably directs:--

(i) any forms, documents or certificates relating to taxation specified in the Schedule or any Confirmation;

(ii) any other documents specified in the Schedule or any Confirmation; and

(iii) upon reasonable demand by such other party, any form or document that may be required or reasonably requested in writing in order to allow such other party or its Credit Support Provider to make a payment under this Agreement or any applicable Credit Support Document without any deduction or withholding for or on account of any Tax or with such deduction or withholding at a reduced rate (so long as the completion, execution or submission of such form or document would not materially prejudice the legal or commercial position of the party in receipt of such demand), with any such form or document to be accurate and completed in a manner reasonably satisfactory to such other party and to be executed and to be delivered with any reasonably required certification,

in each case by the date specified in the Schedule or such Confirmation or, if none is specified, as soon as reasonably practicable.

(b) Maintain Authorisations. It will use all reasonable efforts to maintain in full force and effect all consents of any governmental or other authority that are required to be obtained by it with respect to this Agreement or any Credit Support Document to which it is a party and will use all reasonable efforts to obtain any that may become necessary in the future.

(c) Comply with Laws. It will comply in all material respects with all applicable laws and orders to which it may be subject if failure so to comply would materially impair its ability to perform its obligations under this Agreement or any Credit Support Document to which it is a party.

(d) Tax Agreement. It will give notice of any failure of a representation made by it under Section 3(f) to be accurate and true promptly upon learning of such failure.

(e) Payment of Stamp Tax. Subject to Section 11, it will pay any Stamp Tax levied or imposed upon it or in respect of its execution or performance of this Agreement by a jurisdiction in which it is incorporated,

organised, managed and controlled, or considered to have its seat, or in which a branch or office through which it is acting for the purpose of this Agreement is located ("Stamp Tax Jurisdiction") and will indemnify the other party against any Stamp Tax levied or imposed upon the other party or in respect of the other party's execution or performance of this Agreement by any such Stamp Tax Jurisdiction which is not also a Stamp Tax Jurisdiction with respect to the other party.

5. Events of Default and Termination Events

(a) Events of Default. The occurrence at any time with respect to a party or, if applicable, any Credit Support Provider of such party or any Specified Entity of such party of any of the following events constitutes an event of default (an "Event of Default") with respect to such party:--

(i) Failure to Pay or Deliver. Failure by the party to make, when due, any payment under this Agreement or delivery under Section 2(a)(i) or 2(e) required to be made by it if such failure is not remedied on or before the third Local Business Day after notice of such failure is given to the party;

(ii) Breach of Agreement. Failure by the party to comply with or perform any agreement or obligation (other than an obligation to make any payment under this Agreement or delivery under Section 2(a)(i) or 2(e) or to give notice of a Termination Event or any agreement or obligation under Section 4(a)(i), 4(a)(iii) or 4(d)) to be complied with or performed by the party in accordance with this Agreement if such failure is not remedied on or before the thirtieth day after notice of such failure is given to the party;

(iii) Credit Support Default.

(1) Failure by the party or any Credit Support Provider of such party to comply with or perform any agreement or obligation to be complied with or performed by it in accordance with any Credit Support Document if such failure is continuing after any applicable grace period has elapsed;

(2) the expiration or termination of such Credit Support Document or the failing or ceasing of such Credit Support Document to be in full force and effect for the purpose of this Agreement (in either case other than in accordance with its terms) prior to the satisfaction of all obligations of such party under each Transaction to which such Credit Support Document relates without the written consent of the other party; or

(3) the party or such Credit Support Provider disaffirms, disclaims, repudiates or rejects, in whole or in part, or challenges the validity of, such Credit Support Document;

(iv) Misrepresentation. A representation (other than a representation under Section 3(e) or (f)) made or repeated or deemed to have been made or repeated by the party or any Credit Support Provider of such party in this Agreement or any Credit Support Document proves to have been incorrect or misleading in any material respect when made or repeated or deemed to have been made or repeated;

(v) Default under Specified Transaction. The party, any Credit Support Provider of such party or any applicable Specified Entity of such party (1) defaults under a Specified Transaction and, after giving effect to any applicable notice requirement or grace period, there occurs a liquidation of, an acceleration of obligations under, or an early termination of, that Specified Transaction, (2) defaults, after giving effect to any applicable notice requirement or grace period, in making any payment or delivery due on the last payment, delivery or exchange date of, or any payment on early termination of, a Specified Transaction (or such default continues for at least three Local Business Days if there is no applicable notice requirement or grace period) or (3) disaffirms, disclaims, repudiates or rejects, in whole or in part, a Specified Transaction (or such action is taken by any person or entity appointed or empowered to operate it or act

on its behalf);

(vi) Cross Default. If "Cross Default" is specified in the Schedule as applying to the party, the occurrence or existence of (1) a default, event of default or other similar condition or event (however

described) in respect of such party, any Credit Support Provider of such party or any applicable Specified Entity of such party under one or more agreements or instruments relating to Specified Indebtedness of any of them (individually or collectively) in an aggregate amount of not less than the applicable Threshold Amount (as specified in the Schedule) which has resulted in such Specified Indebtedness becoming, or becoming capable at such time of being declared, due and payable under such agreements or instruments, before it would otherwise have been due and payable or (2) a default by such party, such Credit Support Provider or such Specified Entity (individually or collectively) in making one or more payments on the due date thereof in an aggregate amount of not less than the applicable Threshold Amount under such agreements or instruments (after giving effect to any applicable notice requirement or grace period);

(vii) Bankruptcy. The party, any Credit Support Provider of such party or any applicable Specified Entity of such party: --

> (1) is dissolved (other than pursuant to a consolidation, amalgamation or merger); (2) becomes insolvent or is unable to pay its debts or fails or admits in writing its inability generally to pay its debts as they become due; (3) makes a general assignment, arrangement or composition with or for the benefit of its creditors; (4) institutes or has instituted against it a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors' rights, or a petition is presented for its winding-up or liquidation, and, in the case of any such proceeding or petition instituted or presented against it, such proceeding or petition (A) results in a judgment of insolvency or bankruptcy or the entry of an order for relief or the making of an order for its winding-up or liquidation or (B) is not dismissed, discharged, stayed or restrained in each case within 30 days of the institution or presentation thereof; (5) has a resolution passed for its winding-up, official management or liquidation (other than pursuant to a consolidation, amalgamation or merger); (6) seeks or becomes subject to the appointment of an administrator, provisional liquidator, conservator, receiver, trustee, custodian or other similar official for it or for all or substantially all its assets; (7) has a secured party take possession of all or substantially all its assets or has a distress, execution, attachment, sequestration or other legal process levied, enforced or sued on or against all or substantially all its assets and such secured party maintains possession, or any such process is not dismissed, discharged, stayed or restrained, in each case within 30 days thereafter; (8) causes or is subject to any event with respect to it which, under the applicable laws of any jurisdiction, has an analogous effect to any of the events specified in clauses (1) to (7) (inclusive); or (9) takes any action in furtherance of, or indicating its consent to, approval of, or acquiescence in, any of the foregoing acts; or

(viii) Merger Without Assumption. The party or any Credit Support Provider of such party consolidates or amalgamates with, or merges with or into, or transfers all or substantially all its assets to, another entity and, at the time of such consolidation, amalgamation, merger or transfer: --

> (1) the resulting, surviving or transferee entity fails to assume all the obligations of such party or such Credit Support Provider under this Agreement or any Credit Support Document to which it or its predecessor was a party by operation of law or pursuant to an agreement reasonably satisfactory to the other party to this Agreement; or
>
> (2) the benefits of any Credit Support Document fail to extend

(without the consent of the other party) to the performance by such resulting, surviving or transferee entity of its obligations under this Agreement.

(b) Termination Events. The occurrence at any time with respect to a party or, if applicable, any Credit Support Provider of such party or any Specified Entity of such party of any event specified below constitutes an Illegality if the event is specified in (i) below, a Tax Event if the event is specified in (ii) below or a Tax Event Upon Merger if the event is specified in (iii) below, and, if specified to be applicable, a Credit Event

Upon Merger if the event is specified pursuant to (iv) below or an Additional Termination Event if the event is specified pursuant to (v) below:--

(i) Illegality. Due to the adoption of, or any change in, any applicable law after the date on which a Transaction is entered into, or due to the promulgation of, or any change in, the interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law after such date, it becomes unlawful (other than as a result of a breach by the party of Section 4(b)) for such party (which will be the Affected Party): --

(1) to perform any absolute or contingent obligation to make a payment or delivery or to receive a payment or delivery in respect of such Transaction or to comply with any other material provision of this Agreement relating to such Transaction; or

(2) to perform, or for any Credit Support Provider of such party to perform, any contingent or other obligation which the party (or such Credit Support Provider) has under any Credit Support Document relating to such Transaction;

(ii) Tax Event. Due to (x) any action taken by a taxing authority, or brought in a court of competent jurisdiction, on or after the date on which a Transaction is entered into (regardless of whether such action is taken or brought with respect to a party to this Agreement) or (y) a Change in Tax Law, the party (which will be the Affected Party) will, or there is a substantial likelihood that it will, on the next succeeding Scheduled Payment Date (1) be required to pay to the other party an additional amount in respect of an Indemnifiable Tax under Section 2(d)(i)(4) (except in respect of interest under Section 2(e), 6(d)(ii) or 6(e)) or (2) receive a payment from which an amount is required to be deducted or withheld for or on account of a Tax (except in respect of interest under Section 2(e), 6(d)(ii) or 6(e)) and no additional amount is required to be paid in respect of such Tax under Section 2(d)(i)(4) (other than by reason of Section 2(d)(i)(4)(A) or (B));

(iii) Tax Event Upon Merger. The party (the "Burdened Party") on the next succeeding Scheduled Payment Date will either (1) be required to pay an additional amount in respect of an Indemnifiable Tax under Section 2(d)(i)(4) (except in respect of interest under Section 2(e), 6(d)(ii) or 6(e)) or (2) receive a payment from which an amount has been deducted or withheld for or on account of any Indemnifiable Tax in respect of which the other party is not required to pay an additional amount (other than by reason of Section 2(d)(i)(4)(A) or (B)), in either case as a result of a party consolidating or amalgamating with, or merging with or into, or transferring all or substantially all its assets to, another entity (which will be the Affected Party) where such action does not constitute an event described in Section 5(a)(viii);

(iv) Credit Event Upon Merger. If "Credit Event Upon Merger" is specified in the Schedule as applying to the party, such party ("X"), any Credit Support Provider of X or any applicable Specified Entity of X consolidates or amalgamates with, or merges with or into, or transfers all or substantially all its assets to, another entity and such action does not constitute an event described in Section 5(a)(viii) but the creditworthiness of the resulting, surviving or transferee entity is materially weaker than that of X, such Credit Support Provider or such Specified Entity, as the case may be, immediately prior to such action (and, in such event, X or its successor or transferee, as appropriate, will be the Affected Party); or

(v) Additional Termination Event. If any "Additional Termination Event" is specified in the Schedule or any Confirmation as applying, the occurrence of such event (and, in such event, the Affected Party or Affected Parties shall be as specified for such Additional Termination Event in the Schedule or such Confirmation).

(c) Event of Default and Illegality. If an event or circumstance which would otherwise constitute or give rise to an Event of Default also constitutes an Illegality, it will be treated as an Illegality and will not constitute an Event of Default.

6. Early Termination

(a) Right to Terminate Following Event of Default. If at any time an Event of Default with respect to a party (the "Defaulting Party") has occurred and is then continuing, the other party (the "Non-defaulting Party") may, by not more than 20 days notice to the Defaulting Party specifying the relevant Event of Default, designate a day not earlier than the day such notice is effective as an Early Termination Date in respect of all outstanding Transactions. If, however, "Automatic Early Termination" is specified in the Schedule as applying to a party, then an Early Termination Date in respect of all outstanding Transactions will occur immediately upon the occurrence with respect to such party of an Event of Default specified in Section 5(a)(vii)(1), (3), (5), (6) or, to the extent analogous thereto, (8), and as of the time immediately preceding the institution of the relevant proceeding or the presentation of the relevant petition upon the occurrence with respect to such party of an Event of Default specified in Section 5(a)(vii)(4) or, to the extent analogous thereto, (8).

(b) Right to Terminate Following Termination Event.

(i) Notice. If a Termination Event occurs, an Affected Party will, promptly upon becoming aware of it, notify the other party, specifying the nature of that Termination Event and each Affected Transaction and will also give such other information about that Termination Event as the other party may reasonably require.

(ii) Transfer to Avoid Termination Event. If either an Illegality under Section 5(b)(i)(1) or a Tax Event occurs and there is only one Affected Party, or if a Tax Event Upon Merger occurs and the Burdened Party is the Affected Party, the Affected Party will, as a condition to its right to designate an Early Termination Date under Section 6(b)(iv), use all reasonable efforts (which will not require such party to incur a loss, excluding immaterial, incidental expenses) to transfer within 20 days after it gives notice under Section 6(b)(i) all its rights and obligations under this Agreement in respect of the Affected Transactions to another of its Offices or Affiliates so that such Termination Event ceases to exist.

If the Affected Party is not able to make such a transfer it will give notice to the other party to that effect within such 20 day period, whereupon the other party may effect such a transfer within 30 days after the notice is given under Section 6(b)(i).

Any such transfer by a party under this Section 6(b)(ii) will be subject to and conditional upon the prior written consent of the other party, which consent will not be withheld if such other party's policies in effect at such time would permit it to enter into transactions with the transferee on the terms proposed.

(iii) Two Affected Parties. If an Illegality under Section 5(b)(i)(1) or a Tax Event occurs and there are two Affected Parties, each party will use all reasonable efforts to reach agreement within 30 days after notice thereof is given under Section 6(b)(i) on action to avoid that Termination Event.

(iv) Right to Terminate. If:--

(1) a transfer under Section 6(b)(ii) or an agreement under Section 6(b)(iii), as the case may be, has not been effected with respect to all Affected Transactions within 30 days after an Affected Party gives notice under Section 6(b)(i); or

(2) an Illegality under Section 5(b)(i)(2), a Credit Event Upon Merger or an Additional Termination Event occurs, or a Tax Event Upon Merger occurs and the Burdened Party is not the Affected Party,

either party in the case of an Illegality, the Burdened Party in the case of a Tax Event Upon Merger, any Affected Party in the case of a Tax Event or an Additional Termination Event if there is more than one Affected Party, or the party which is not the Affected Party in the case of a Credit Event Upon Merger or an Additional Termination Event if there is only one Affected Party may, by not more than 20 days notice to the other party and provided that the relevant Termination Event is then

continuing, designate a day not earlier than the day such notice is effective as an Early Termination Date in respect of all Affected Transactions.

(c) Effect of Designation.

(i) If notice designating an Early Termination Date is given under Section 6(a) or (b), the Early Termination Date will occur on the date so designated, whether or not the relevant Event of Default or Termination Event is then continuing.

(ii) Upon the occurrence or effective designation of an Early Termination Date, no further payments or deliveries under Section 2(a)(i) or 2(e) in respect of the Terminated Transactions will be required to be made, but without prejudice to the other provisions of this Agreement. The amount, if any, payable in respect of an Early Termination Date shall be determined pursuant to Section 6(e).

(d) Calculations.

(i) Statement. On or as soon as reasonably practicable following the occurrence of an Early Termination Date, each party will make the calculations on its part, if any, contemplated by Section 6(e) and will provide to the other party a statement (1) showing, in reasonable detail, such calculations (including all relevant quotations and specifying any amount payable under Section 6(e)) and (2) giving details of the relevant account to which any amount payable to it is to be paid. In the absence of written confirmation from the source of a quotation obtained in determining a Market Quotation, the records of the party obtaining such quotation will be conclusive evidence of the existence and accuracy of such quotation.

(ii) Payment Date. An amount calculated as being due in respect of any Early Termination Date under Section 6(e) will be payable on the day that notice of the amount payable is effective (in the case of an Early Termination Date which is designated or occurs as a result of an Event of Default) and on the day which is two Local Business Days after the day on which notice of the amount payable is effective (in the case of an Early Termination Date which is designated as a result of a Termination Event). Such amount will be paid together with (to the extent permitted under applicable law) interest thereon (before as well as after judgment) in the Termination Currency, from (and including) the relevant Early Termination Date to (but excluding) the date such amount is paid, at the Applicable Rate. Such interest will be calculated on the basis of daily compounding and the actual number of days elapsed.

(e) Payments on Early Termination. If an Early Termination Date occurs, the following provisions shall apply based on the parties' election in the Schedule of a payment measure, either "Market Quotation" or "Loss", and a payment method, either the "First Method" or the "Second Method". If the parties fail to designate a payment measure or payment method in the Schedule, it will be deemed that "Market Quotation" or the "Second Method", as the case may be, shall apply. The amount, if any, payable in respect of an Early Termination Date and determined pursuant to this Section will be subject to any Set-off.

(i) Events of Default. If the Early Termination Date results from an Event of Default:--

(1) First Method and Market Quotation. If the First Method and Market

Quotation apply, the Defaulting Party will pay to the Non-defaulting Party the excess, if a positive number, of (A) the sum of the Settlement Amount (determined by the Non-defaulting Party) in respect of the Terminated Transactions and the Termination Currency Equivalent of the Unpaid Amounts owing to the Non-defaulting Party over (B) the Termination Currency Equivalent of the Unpaid Amounts owing to the Defaulting Party.

(2) First Method and Loss. If the First Method and Loss apply, the Defaulting Party will pay to the Non-defaulting Party, if a positive number, the Non-defaulting Party's Loss in respect of this Agreement.

(3) Second Method and Market Quotation. If the Second Method and Market Quotation apply, an amount will be payable equal to (A) the sum of the Settlement Amount (determined by the

Non-defaulting Party) in respect of the Terminated Transactions and the Termination Currency Equivalent of the Unpaid Amounts owing to the Non-defaulting Party less (B) the Termination Currency Equivalent of the Unpaid Amounts owing to the Defaulting Party. If that amount is a positive number, the Defaulting Party will pay it to the Non-defaulting Party; if it is a negative number, the Non-defaulting Party will pay the absolute value of that amount to the Defaulting Party.

(4) Second Method and Loss. If the Second Method and Loss apply, an amount will be payable equal to the Non-defaulting Party's Loss in respect of this Agreement. If that amount is a positive number, the Defaulting Party will pay it to the Non-defaulting Party; if it is a negative number, the Non-defaulting Party will pay the absolute value of that amount to the Defaulting Party.

(ii) Termination Events. If the Early Termination Date results from a Termination Event:--

(1) One Affected Party. If there is one Affected Party, the amount payable will be determined in accordance with Section 6(e)(i)(3), if Market Quotation applies, or Section 6(e)(i)(4), if Loss applies, except that, in either case, references to the Defaulting Party and to the Non-defaulting Party will be deemed to be references to the Affected Party and the party which is not the Affected Party, respectively, and, if Loss applies and fewer than all the Transactions are being terminated, Loss shall be calculated in respect of all Terminated Transactions.

(2) Two Affected Parties. If there are two Affected Parties:--

(A) if Market Quotation applies, each party will determine a

Settlement Amount in respect of the Terminated Transactions, and an amount will be payable equal to (I) the sum of (a) one-half of the difference between the Settlement Amount of the party with the higher Settlement Amount ("X") and the Settlement Amount of the party with the lower Settlement Amount ("Y") and (b) the Termination Currency Equivalent of the Unpaid Amounts owing to X less (II) the Termination Currency Equivalent of the Unpaid Amounts owing to Y; and

(B) if Loss applies, each party will determine its Loss in respect of this Agreement (or, if fewer than all the Transactions are being terminated, in respect of all Terminated Transactions) and an amount will be payable equal to one-half of the difference between the Loss of the party with the higher Loss ("X") and the Loss of the party with the lower Loss ("Y").

If the amount payable is a positive number, Y will pay it to X; if it is a negative number, X will pay the absolute value of that amount to Y.

(iii) Adjustment for Bankruptcy. In circumstances where an Early Termination Date occurs because "Automatic Early Termination" applies in respect of a party, the amount determined under this Section 6(e) will be

subject to such adjustments as are appropriate and permitted by law to reflect any payments or deliveries made by one party to the other under this Agreement (and retained by such other party) during the period from the relevant Early Termination Date to the date for payment determined under Section 6(d)(ii).

(iv) Pre-Estimate. The parties agree that if Market Quotation applies an amount recoverable under this Section 6(e) is a reasonable pre-estimate of loss and not a penalty. Such amount is payable for the loss of bargain and the loss of protection against future risks and except as otherwise provided in this Agreement neither party will be entitled to recover any additional damages as a consequence of such losses.

7. Transfer

Subject to Section 6(b)(ii), neither this Agreement nor any interest or obligation in or under this Agreement may be transferred (whether by way of security or otherwise) by either party without the prior written consent of the other party, except that: --

(a) a party may make such a transfer of this Agreement pursuant to a consolidation or amalgamation with, or merger with or into, or transfer of all or substantially all its assets to, another entity (but without prejudice to any other right or remedy under this Agreement); and

(b) a party may make such a transfer of all or any part of its interest in any amount payable to it from a Defaulting Party under Section 6(e).

Any purported transfer that is not in compliance with this Section will be void.

8. Contractual Currency

(a) Payment in the Contractual Currency. Each payment under this Agreement will be made in the relevant currency specified in this Agreement for that payment (the "Contractual Currency"). To the extent permitted by applicable law, any obligation to make payments under this Agreement in the Contractual Currency will not be discharged or satisfied by any tender in any currency other than the Contractual Currency, except to the extent such tender results in the actual receipt by the party to which payment is owed, acting in a reasonable manner and in good faith in converting the currency so tendered into the Contractual Currency, of the full amount in the Contractual Currency of all amounts payable in respect of this Agreement. If for any reason the amount in the Contractual Currency so received falls short of the amount in the Contractual Currency payable in respect of this Agreement, the party required to make the payment will, to the extent permitted by applicable law, immediately pay such additional amount in the Contractual Currency as may be necessary to compensate for the shortfall. If for any reason the amount in the Contractual Currency so received exceeds the amount in the Contractual Currency payable in respect of this Agreement, the party receiving the payment will refund promptly the amount of such excess.

(b) Judgments. To the extent permitted by applicable law, if any judgment or order expressed in a currency other than the Contractual Currency is rendered (i) for the payment of any amount owing in respect of this Agreement, (ii) for the payment of any amount relating to any early termination in respect of this Agreement or (iii) in respect of a judgment or order of another court for the payment of any amount described in (i) or (ii) above, the party seeking recovery, after recovery in full of the aggregate amount to which such party is entitled pursuant to the judgment or order, will be entitled to receive immediately from the other party the amount of any shortfall of the Contractual Currency received by such party as a consequence of sums paid in such other currency and will refund promptly to the other party any excess of the Contractual Currency received by such party as a consequence of sums paid in such other currency if such shortfall or such excess arises or results from any variation between the rate of exchange at which the Contractual Currency is converted into the currency of the judgment or order for the purposes of such judgment or order and the rate of exchange at which such party is able, acting in a reasonable manner and in good faith in converting the currency received into the Contractual Currency, to purchase the Contractual Currency with the amount of the currency of the judgment or order actually received by such party. The term "rate of exchange" includes, without limitation, any premiums and costs of exchange payable in connection with the purchase of or conversion into the

Contractual Currency.

(c) Separate Indemnities. To the extent permitted by applicable law, these indemnities constitute separate and independent obligations from the other obligations in this Agreement, will be enforceable as separate and independent causes of action, will apply notwithstanding any indulgence granted by the party to which any payment is owed and will not be affected by judgment being obtained or claim or proof being made for any other sums payable in respect of this Agreement.

(d) Evidence of Loss. For tbe purpose of this Section 8, it will be sufficient for a party to demonstrate that it would have suffered a loss had an actual exchange or purchase been made.

9. Miscellaneous

(a) Entire Agreement. This Agreement constitutes the entire agreement and understanding of the parties with respect to its subject matter and supersedes all oral communication and prior writings with respect thereto.

(b) Amendments. No amendment, modification or waiver in respect of this Agreement will be effective unless in writing (including a writing evidenced by a facsimile transmission) and executed by each of the parties or confirmed by an exchange of telexes or electronic messages on an electronic messaging system.

(c) Survival of Obligations. Without prejudice to Sections 2(a)(iii) and 6(c)(ii), the obligations of the parties under this Agreement will survive the termination of any Transaction.

(d) Remedies Cumulative. Except as provided in this Agreement, the rights, powers, remedies and privileges provided in this Agreement are cumulative and not exclusive of any rights, powers, remedies and privileges provided by law.

(e) Counterparts and Confirmations.

(i) This Agreement (and each amendment, modification and waiver in respect of it) may be executed and delivered in counterparts (including by facsimile transmission), each of which will be deemed an original.

(ii) The parties intend that they are legally bound by the terms of each Transaction from the moment they agree to those terms (whether orally or otherwise). A Confirmation shall be entered into as soon as practicable and may be executed and delivered in counterparts (including by facsimile transmission) or be created by an exchange of telexes or by an exchange of electronic messages on an electronic messaging system, which in each case will be sufficient for all purposes to evidence a binding supplement to this Agreement. The parties will specify therein or through another effective means that any such counterpart, telex or electronic message constitutes a Confirmation.

(f) No Waiver of Rights. A failure or delay in exercising any right, power or privilege in respect of this Agreement will not be presumed to operate as a waiver, and a single or partial exercise of any right, power or privilege will not be presumed to preclude any subsequent or further exercise, of that right, power or privilege or the exercise of any other right, power or privilege.

(g) Headings. The headings used in this Agreement are for convenience of reference only and are not to affect the construction of or to be taken into consideration in interpreting this Agreement.

10. Offices; Multibranch Parties

(a) If Section 10(a) is specified in the Schedule as applying, each party that enters into a Transaction through an Office other than its head or home office represents to the other party that, notwithstanding the place of booking office or jurisdiction of incorporation or organisation of such party, the obligations of such party are the same as if it had entered into the Transaction through its head or home office. This representation will be deemed to be repeated by such party on each date on which a Transaction is entered into.

(b) Neither party may change the Office through which it makes and receives payments or deliveries for the purpose of a Transaction without the prior

written consent of the other party.

(c) If a party is specified as a Multibranch Party in the Schedule, such Multibranch Party may make and receive payments or deliveries under any Transaction through any Office listed in the Schedule, and the Office through which it makes and receives payments or deliveries with respect to a Transaction will be specified in the relevant Confirmation.

11. Expenses

A Defaulting Party will, on demand, indemnify and hold harmless the other party for and against all reasonable out-of-pocket expenses, including legal fees and Stamp Tax, incurred by such other party by reason of the enforcement and protection of its rights under this Agreement or any Credit Support Document

to which the Defaulting Party is a party or by reason of the early termination of any Transaction, including, but not limited to, costs of collection.

12. Notices

(a) Effectiveness. Any notice or other communication in respect of this Agreement may be given in any manner set forth below (except that a notice or other communication under Section 5 or 6 may not be given by facsimile transmission or electronic messaging system) to the address or number or in accordance with the electronic messaging system details provided (see the Schedule) and will be deemed effective as indicated:--

(i) if in writing and delivered in person or by courier, on the date it is delivered;

(ii) if sent by telex, on the date the recipient's answerback is received;

(iii) if sent by facsimile transmission, on the date that transmission is received by a responsible employee of the recipient in legible form (it being agreed that the burden of proving receipt will be on the sender and will not be met by a transmission report generated by the sender's facsimile machine);

(iv) if sent by certified or registered mail (airmail, if overseas) or the equivalent (return receipt requested), on the date that mail is delivered or its delivery is attempted; or

(v) if sent by electronic messaging system, on the date that electronic message is received,

unless the date of that delivery (or attempted delivery) or that receipt, as applicable, is not a Local Business Day or that communication is delivered (or attempted) or received, as applicable, after the close of business on a Local Business Day, in which case that communication shall be deemed given and effective on the first following day that is a Local Business Day.

(b) Change of Addresses. Either party may by notice to the other change the address, telex or facsimile number or electronic messaging system details at which notices or other communications are to be given to it.

13. Governing Law and Jurisdiction

(a) Governing Law. This Agreement will be governed by and construed in accordance with the law specified in the Schedule.

(b) Jurisdiction. With respect to any suit, action or proceedings relating to this Agreement ("Proceedings"), each party irrevocably:--

(i) submits to the jurisdiction of the English courts, if this Agreement is expressed to be governed by English law, or to the non-exclusive jurisdiction of the courts of the State of New York and the United States District Court located in the Borough of Manhattan in New York City, if this Agreement is expressed to be governed by the laws of the State of New York; and

(ii) waives any objection which it may have at any time to the laying of venue of any Proceedings brought in any such court, waives any claim that such Proceedings have been brought in an inconvenient forum and further waives the right to object, with respect to such Proceedings, that such court does not have any jurisdiction over such party.

Nothing in this Agreement precludes either party from bringing Proceedings in any other jurisdiction (outside, if this Agreement is expressed to be governed by English law, the Contracting States, as defined in Section 1(3) of the Civil Jurisdiction and Judgments Act 1982 or any modification, extension or re-enactment thereof for the time being in force) nor will the bringing of Proceedings in any one or more jurisdictions preclude the bringing of Proceedings in any other jurisdiction.

(c) Service of Process. Each party irrevocably appoints the Process Agent (if any) specified opposite its name in the Schedule to receive, for it and on its behalf, service of process in any Proceedings. If for any

reason any party's Process Agent is unable to act as such, such party will promptly notify the other party and within 30 days appoint a substitute process agent acceptable to the other party. The parties irrevocably consent to service of process given in the manner provided for notices in Section 12. Nothing in this Agreement will affect the right of either party to serve process in any other manner permitted by law.

(d) Waiver of Immunities. Each party irrevocably waives, to the fullest extent permitted by applicable law, with respect to itself and its revenues and assets (irrespective of their use or intended use), all immunity on the grounds of sovereignty or other similar grounds from (i) suit, (ii) jurisdiction of any court, (iii) relief by way of injunction, order for specific performance or for recovery of property, (iv) attachment of its assets (whether before or after judgment) and (v) execution or enforcement of any judgment to which it or its revenues or assets might otherwise be entitled in any Proceedings in the courts of any jurisdiction and irrevocably agrees, to the extent permitted by applicable law, that it will not claim any such immunity in any Proceedings.

14. Definitions

As used in this Agreement:--

"Additional Termination Event" has the meaning specified in Section 5(b).

"Affected Party" has the meaning specified in Section 5(b).

"Affected Transactions" means (a) with respect to any Termination Event consisting of an Illegality, Tax Event or Tax Event Upon Merger, all Transactions affected by the occurrence of such Termination Event and (b) with respect to any other Termination Event, all Transactions.

"Affiliate" means, subject to the Schedule, in relation to any person, any entity controlled, directly or indirectly, by the person, any entity that controls, directly or indirectly, the person or any entity directly or indirectly under common control with the person. For this purpose, "control" of any entity or person means ownership of a majority of the voting power of the entity or person.

"Applicable Rate" means:--

(a) in respect of obligations payable or deliverable (or which would have been but for Section 2(a)(iii)) by a Defaulting Party, the Default Rate;

(b) in respect of an obligation to pay an amount under Section 6(e) of either party from and after the date (determined in accordance with Section 6(d)(ii)) on which that amount is payable, the Default Rate;

(c) in respect of all other obligations payable or deliverable (or which would have been but for Section 2(a)(iii)) by a Non-defaulting Party, the Non-default Rate; and

(d) in all other cases, the Termination Rate.

"Burdened Party" has the meaning specified in Section 5(b).

"Change in Tax Law" means the enactment, promulgation, execution or ratification of, or any change in or amendment to, any law (or in the application or official interpretation of any law) that occurs on or after the date on which the relevant Transaction is entered into.

"consent" includes a consent, approval, action, authorisation, exemption, notice, filing, registration or exchange control consent.

"Credit Event Upon Merger" has the meaning specified in Section 5(b).

"Credit Support Document" means any agreement or instrument that is specified as such in this Agreement.

"Credit Support Provider" has the meaning specified in the Schedule.

"Default Rate" means a rate per annum equal to the cost (without proof or evidence of any actual cost) to the relevant payee (as certified by it) if it were to fund or of funding the relevant amount plus 1% per annum.

"Defaulting Party" has the meaning specified in Section 6(a).

"Early Termination Date" means the date determined in accordance with Section 6(a) or 6(b)(iv).

"Event of Default" has the meaning specified in Section 5(a) and, if applicable, in the Schedule.

"Illegality" has the meaning specified in Section 5(b).

"Indemnifiable Tax" means any Tax other than a Tax that would not be imposed in respect of a payment under this Agreement but for a present or former connection between the jurisdiction of the government or taxation authority imposing such Tax and the recipient of such payment or a person related to such recipient (including, without limitation, a connection arising from such recipient or related person being or having been a citizen or resident of such jurisdiction, or being or having been organised, present or engaged in a trade or business in such jurisdiction, or having or having had a permanent establishment or fixed place of business in such jurisdiction, but excluding a connection arising solely from such recipient or related person having executed, delivered, performed its obligations or received a payment under, or enforced, this Agreement or a Credit Support Document).

"law" includes any treaty, law, rule or regulation (as modified, in the case of tax matters, by the practice of any relevant governmental revenue authority) and "lawful" and "unlawful" will be construed accordingly.

"Local Business Day" means, subject to the Schedule, a day on which commercial banks are open for business (including dealings in foreign exchange and foreign currency deposits) (a) in relation to any obligation under Section 2(a)(i), in the place(s) specified in the relevant Confirmation or, if not so specified, as otherwise agreed by the parties in writing or determined pursuant to provisions contained, or incorporated by reference, in this Agreement, (b) in relation to any other payment, in the place where the relevant account is located and, if different, in the principal financial centre, if any, of the currency of such payment, (c) in relation to any notice or other communication, including notice contemplated under Section 5(a)(i), in the city specified in the address for notice provided by the recipient and, in the case of a notice contemplated by Section 2(b), in the place where the relevant new account is to be located and (d) in relation to Section 5(a)(v)(2), in the relevant locations for performance with respect to such Specified Transaction.

"Loss" means, with respect to this Agreement or one or more Terminated Transactions, as the case may be, and a party, the Termination Currency Equivalent of an amount that party reasonably determines in good faith to be its total losses and costs (or gain, in which case expressed as a negative number) in connection with this Agreement or that Terminated Transaction or group of Terminated Transactions, as the case may be, including any loss of bargain, cost of funding or, at the election of such party but without duplication, loss or cost incurred as a result of its terminating, liquidating, obtaining or

reestablishing any hedge or related trading position (or any gain resulting from any of them). Loss includes losses and costs (or gains) in respect of any payment or delivery required to have been made (assuming satisfaction of each applicable condition precedent) on or before the relevant Early Termination Date and not made, except, so as to avoid duplication, if Section 6(e)(i)(1) or (3) or 6(e)(ii)(2)(A) applies. Loss does not include a party's legal fees and out-of-pocket expenses referred to under Section 11. A party will determine its Loss as of the relevant Early Termination Date, or, if that is not reasonably practicable, as of the earliest date thereafter as is reasonably practicable. A party may (but need not) determine its Loss by reference to quotations of relevant rates or prices from one or more leading dealers in the relevant markets.

"Market Quotation" means, with respect to one or more Terminated Transactions and a party making the determination, an amount determined on the basis of quotations from Reference Market-makers. Each quotation will be for an amount, if any, that would be paid to such party (expressed as a negative number) or by such party (expressed as a positive number) in consideration of an agreement between such party (taking into account any existing Credit Support Document with respect to the obligations of such party) and the quoting Reference Market-maker to enter into a transaction (the "Replacement Transaction") that would have the effect of preserving for such party the economic equivalent of any payment or delivery (whether the underlying obligation was absolute or contingent and assuming the satisfaction of each applicable condition precedent) by the parties under Section 2(a)(i) in respect of such Terminated Transaction or group of Terminated Transactions that would, but for the occurrence of the relevant Early Termination Date, have

been required after that date. For this purpose, Unpaid Amounts in respect of the Terminated Transaction or group of Terminated Transactions are to be excluded but, without limitation, any payment or delivery that would, but for the relevant Early Termination Date, have been required (assuming satisfaction of each applicable condition precedent) after that Early Termination Date is to be included. The Replacement Transaction would be subject to such documentation as such party and the Reference Market-maker may, in good faith, agree. The party making the determination (or its agent) will request each Reference Market-maker to provide its quotation to the extent reasonably practicable as of the same day and time (without regard to different time zones) on or as soon as reasonably practicable after the relevant Early Termination Date. The day and time as of which those quotations are to be obtained will be selected in good faith by the party obliged to make a determination under Section 6(e), and, if each party is so obliged, after consultation with the other. If more than three quotations are provided, the Market Quotation will be the arithmetic mean of the quotations, without regard to the quotations having the highest and lowest values. If exactly three such quotations are provided, the Market Quotation will be the quotation remaining after disregarding the highest and lowest quotations. For this purpose, if more than one quotation has the same highest value or lowest value, then one of such quotations shall be disregarded. If fewer than three quotations are provided, it will be deemed that the Market Quotation in respect of such Terminated Transaction or group of Terminated Transactions cannot be determined.

"Non-default Rate" means a rate per annum equal to the cost (without proof or evidence of any actual cost) to the Non-defaulting Party (as certified by it) if it were to fund the relevant amount.

"Non-defaulting Party" has the meaning specified in Section 6(a).

"Office" means a branch or office of a party, which may be such party's head or home office.

"Potential Event of Default" means any event which, with the giving of notice or the lapse of time or both, would constitute an Event of Default.

"Reference Market-makers" means four leading dealers in the relevant market selected by the party determining a Market Quotation in good faith (a) from among dealers of the highest credit standing which satisfy all the criteria that such party applies generally at the time in deciding whether to offer or to make an extension of credit and (b) to the extent practicable, from among such dealers having an office in the same city.

"Relevant Jurisdiction" means, with respect to a party, the jurisdictions (a) in which the party is incorporated, organised, managed and controlled or considered to have its seat, (b) where an Office through which the party is acting for purposes of this Agreement is located, (c) in which the party executes this Agreement and (d) in relation to any payment, from or through which such payment is made.

"Scheduled Payment Date" means a date on which a payment or delivery is to be made under Section 2(a)(i) with respect to a Transaction.

"Set-off" means set-off, offset, combination of accounts, right of retention or withholding or similar right or requirement to which the payer of an amount under Section 6 is entitled or subject (whether arising under this Agreement, another contract, applicable law or otherwise) that is exercised by, or imposed on, such payer.

"Settlement Amount" means, with respect to a party and any Early Termination Date, the sum of: --

(a) the Termination Currency Equivalent of the Market Quotations (whether positive or negative) for each Terminated Transaction or group of Terminated Transactions for which a Market Quotation is determined; and

(b) such party's Loss (whether positive or negative and without reference to any Unpaid Amounts) for each Terminated Transaction or group of Terminated Transactions for which a Market Quotation cannot be determined or would not (in the reasonable belief of the party making the determination) produce a commercially reasonable result.

"Specified Entity" has the meanings specified in the Schedule.

"Specified Indebtedness" means, subject to the Schedule, any obligation (whether present or future, contingent or otherwise, as principal or surety or otherwise) in respect of borrowed money.

"Specified Transaction" means, subject to the Schedule, (a) any transaction (including an agreement with respect thereto) now existing or hereafter entered into between one party to this Agreement (or any Credit Support Provider of such party or any applicable Specified Entity of such party) and the other party to this Agreement (or any Credit Support Provider of such other party or any applicable Specified Entity of such other party) which is a rate swap transaction, basis swap, forward rate transaction, commodity swap, commodity option, equity or equity index swap, equity or equity index option, bond option, interest rate option, foreign exchange transaction, cap transaction, floor transaction, collar transaction, currency swap transaction, cross-currency rate swap transaction, currency option or any other similar transaction (including any option with respect to any of these transactions), (b) any combination of these transactions and (c) any other transaction identified as a Specified Transaction in this Agreement or the relevant confirmation.

"Stamp Tax" means any stamp, registration, documentation or similar tax.

"Tax" means any present or future tax, levy, impost, duty, charge, assessment or fee of any nature (including interest, penalties and additions thereto) that is imposed by any government or other taxing authority in respect of any payment under this Agreement other than a stamp, registration, documentation or similar tax.

"Tax Event" has the meaning specified in Section 5(b).

"Tax Event Upon Merger" has the meaning specified in Section 5(b).

"Terminated Transactions" means with respect to any Early Termination Date (a) if resulting from a Termination Event, all Affected Transactions and (b) if resulting from an Event of Default, all Transactions (in either case) in effect immediately before the effectiveness of the notice designating that Early Termination Date (or, if "Automatic Early Termination" applies, immediately before that Early Termination Date).

"Termination Currency" has the meaning specified in the Schedule.

"Termination Currency Equivalent" means, in respect of any amount denominated in the Termination Currency, such Termination Currency amount and, in respect of any amount denominated in a currency other than the Termination Currency (the "Other Currency"), the amount in the Termination Currency determined by the party making the relevant determination as being required to purchase such amount of such Other Currency as at the relevant Early Termination Date, or, if the relevant Market Quotation or Loss (as the case may be), is determined as of a later date, that later date, with the Termination Currency at the rate equal to the spot exchange rate of the foreign exchange agent (selected as provided below) for the purchase of such Other Currency with the Termination Currency at or about 11:00 a.m. (in the city in which such foreign exchange agent is located) on such date as would be customary for the determination of such a rate for the purchase of such Other Currency for value on the relevant Early Termination Date or that later date. The foreign exchange agent will, if only one party is obliged to make a determination under Section 6(e), be selected in good faith by that party and otherwise will be agreed by the parties.

"Termination Event" means an Illegality, a Tax Event or a Tax Event Upon Merger or, if specified to be applicable, a Credit Event Upon Merger or an Additional Termination Event.

"Termination Rate" means a rate per annum equal to the arithmetic mean of the cost (without proof or evidence of any actual cost) to each party (as certified by such party) if it were to fund or of funding such amounts.

"Unpaid Amounts" owing to any party means, with respect to an Early Termination Date, the aggregate of (a) in respect of all Terminated Transactions, the amounts that became payable (or that would have become payable but for Section 2(a)(iii)) to such party under Section 2(a)(i) on or prior to such Early Termination Date and which remain unpaid as at such Early Termination Date and (b) in respect of each Terminated Transaction, for each obligation under Section 2(a)(i) which was (or would have been but for Section 2(a)(iii)) required to be settled by delivery to such party on or prior to such Early Termination Date and which has not been so settled as at such Early Termination Date, an amount equal to the fair market

value of that which was (or would have been) required to be delivered as of the originally scheduled date for delivery, in each case together with (to the extent permitted under applicable law) interest, in the currency of such amounts, from (and including) the date such amounts or obligations were or would have been required to have been paid or performed to (but excluding) such Early Termination Date, at the Applicable Rate. Such amounts of interest will be calculated on the basis of daily compounding and the actual number of days elapsed. The fair market value of any obligation referred to in clause (b) above shall be reasonably determined by the party obliged to make the determination under Section 6(e) or, if each party is so obliged, it shall be the average of the Termination Currency Equivalents of the fair market values reasonably determined by both parties.

IN WITNESS WHEREOF the parties have executed this document on the respective dates specified below with effect from the date specified on the first page of this document.

CITIBANK, N.A.	CELL THERAPEUTICS CORPORATE DEVELOPMENT, INC
.....	.....
(Name of Party)	(Name of Party)
By:	By: .....
Name:	Name:
Title:	Title:
Date:	Date:

SCHEDULE

to the

MASTER AGREEMENT

Dated as of January 25, 2002

between Citibank, N.A., New York ("Party A"), a national banking association organized under the laws of the United States and CELL THERAPEUTICS CORPORATE DEVELOPMENT, INC. ("Party B"), a corporation organized under the laws of the State of Oregon

Scope of Agreement

As of the date of this Agreement, all Transactions entered into (whether before or after this Agreement is entered into) between the parties to this Agreement (and the respective rights and obligations of the parties in respect of those Transactions) shall be governed by, subject to, and determined in accordance with, the terms and conditions set out in this Agreement and the related Confirmations.

General Definitions

(1) "Affiliate" will have the meaning specified in Section 14 of this Agreement.

(2) "Calculation Agent" means Party A, unless otherwise specified in a Confirmation in relation to the relevant Transaction.

(3) "Credit Support Document" means the Guaranty of the Credit Support Provider granted to Party A, dated as of January 25, 2002.

(4) "Credit Support Provider" CELL THERAPEUTICS, INC, a corporation organized under the laws of the State of Washington.

(5) "Eligible Party" means a party that is (i) an "accredited investor" as defined in Regulation D of the Securities Act of 1933, as amended, which includes inter alia a corporation, a partnership or an organization, not formed for the specific purpose of entering into Transactions under the Agreement, with total assets in excess of $5,000,000; and (ii) an "eligible swap participant" as defined by the Commodity Futures Trading Commission in 17 C.F.R. (S)35.1(b)(2),

which includes inter alia, any corporation, partnership, or organization not formed solely for the specific purpose of constituting an eligible swap participant, with total assets exceeding $10,000,000.

(6) "Specified Entity" the Credit Support Provider.

(7) "Specified Indebtedness" means any obligation (whether present or future, contingent or otherwise, as principal or surety or otherwise) in respect of borrowed money, excluding indebtedness in respect of deposits accepted by a U.S. federal or state regulated institution that is permitted by applicable banking law to hold deposits.

(8) "Specified Transaction" will have the meaning specified in Section 14.

(9) "Termination Currency" means United States Dollars.

PART 1

Termination Provisions

In this Agreement:

(1) The "Cross-Default" provisions of Section 5(a)(vi) will apply to Party A and Party B, and "Threshold Amount" will mean (i) with respect to Party A, 2% of the stockholders' equity of Party A and (ii) with respect to Party B, $10,000,000.00, with respect to any Specified Indebtedness to Party A or its affiliates; and zero in the case of all other Specified Indebtedness.

(2) The "Breach of Agreement" provisions of Section 5(a)(ii) of the Agreement shall be amended with respect to Party B by substituting "tenth" for "thirtieth" in the fifth line thereof.

(3) The "Credit Event Upon Merger" provisions of Section 5(b)(iv) will apply to Party A and Party B.

(4) Each of the following will constitute an "Additional Termination Event" under Section 5(b)(v) of the Agreement:

(i) Change of Form. The legal form of Party B changes. (Party B will be the Affected Party); or

(ii) Impossibility. Due to the occurrence of a natural or man-made disaster, armed conflict, act of terrorism, riot, labor disruption or any other circumstance beyond its control after the date on which a Transaction is entered into, it becomes impossible (other than as a result of its own misconduct) for such a party (which will be the Affected Party):

(1) to perform any absolute or contingent obligation, to make a payment or delivery or to receive a payment or delivery in respect of such Transaction or to comply with any other material provision of this Agreement relating to such Transaction; or

(2) to perform, or for any Credit Support Provider of such party to perform, any contingent or other obligation which the party (or such Credit Support Provider) has under any Credit Support Document relating to such Transaction.

(5) Event of Default and Illegality and Impossibility. Section 5(c) is hereby amended to read as follows: If an event or circumstance which would otherwise constitute or give rise to an Event of Default also constitutes an Illegality and/or Impossibility, it will be treated as an Illegality and/or Impossibility, as the case may be, and will not constitute an Event of Default.

(6) The "Automatic Early Termination" provision of Section 6(a) will not apply to Party A or Party B, unless one of the Events of Default specified in Section 6(a) which would otherwise trigger an Automatic Early Termination occurs and is governed by a system of law which does not permit termination to take place after its occurrence, in which case the Automatic Early Termination provision of Section 6(a) will apply to Party A and Party B.

(7) The "Transfer to Avoid Termination Event" provisions of Section 6(b)(ii) will not apply to Party B if Party B is the Affected Party.

(8) Payments on Early Termination.

(a) For the purpose of Section 6(e) of the Agreement, the Second Method and Market Quotation will apply, except in the case of FX Transactions, Currency Obligations and Currency Options (as referenced or defined in Part 6 hereof), where the Second Method and Loss will apply.

(b) For purposes of Section 6(e) of the Agreement, all Market Quotations and Losses for any party will be determined in good faith by Party A.

(9) Notice of an Event of Default or Termination Event. Each party agrees, upon learning of the occurrence of any event or commencement of any condition that constitutes (or that with the giving of notice or passage of time or both would constitute) an Event of Default or Termination Event with respect to the party, promptly to give the other party notice of such event or condition

(or, in lieu of giving notice of such event or condition in the case of an event or condition that with the giving of notice or passage of time or both would constitute an Event of Default or Termination Event with respect to the party, to cause such event or condition to cease to exist before becoming an Event of Default or Termination Event).

(10) Netting Provisions upon Designation of an Early Termination Date. If an Early Termination Date is designated, amounts determined in respect of all Terminated Transactions shall, to the fullest extent permitted by law, be aggregated with and netted against one another in performing the calculations contemplated by Section 6(e) of this Agreement. Any Terminated Transaction(s) that cannot be so aggregated and netted pursuant to the application of the previous sentence shall be aggregated and netted amongst themselves to the fullest extent permitted by law. Any Terminated Transactions that cannot be so aggregated and netted amongst themselves shall instead be (and is hereby agreed always to have been) governed by, and subject to the terms and conditions set out in the relevant Confirmation(s) with respect to such Transaction(s).

(11) Set-off. Section 6 of the Agreement is amended by adding the following new subsection 6(f):

> (f) In addition to any rights of set-off a party may have as a matter of law or otherwise, upon the occurrence of an Event of Default with respect to a party ("X"), the other party ("Y") will have the right (but will not be obliged) without prior notice to X or any other person to set-off any obligation of X owing to Y (whether or not arising under this Agreement, whether or not matured, whether or not contingent and regardless of the currency, place of payment or booking office of the obligation) against any obligation of Y owing to X (whether or not arising under this Agreement, whether or not matured, whether or not contingent and regardless of the currency, place of payment or booking office of the obligation).
>
> For the purpose of cross-currency set-off, Y may convert any obligation to another currency at a market rate determined by Y.
>
> If an obligation is unascertained, Y may in good faith estimate that obligation and set-off in respect of the estimate, subject to the relevant party accounting to the other when the obligation is ascertained.
>
> Nothing in this provision will be deemed to create a charge or other security interest.

PART 2

Tax Representations

(1) Payer Representations. For the purposes of Section 3(e), Party A and Party B will make the following representation:

> It is not required by any applicable law, as modified by the practice of any relevant governmental revenue authority, of any Relevant Jurisdiction to make any deduction or withholding for or on account of any Tax from any payment (other than interest under Section 2(e), 6(d)(ii) or 6(e) of this Agreement) to be made by it to the other party under this Agreement. In making this representation, it may rely on (x) the accuracy of any representation made by the other party pursuant to Section 3(f) of this Agreement; (y) the

> satisfaction of the agreement contained in Section 4(a)(i) or 4(a)(iii) of this Agreement and the accuracy and effectiveness of any document provided by the other party pursuant to Section 4(a)(i) or 4(a)(iii) of this Agreement and (z) the satisfaction of the agreement of the other party containedin Section 4(d) of this Agreement, provided that it shall not be a
> breach of this representation where reliance is placed on clause (y) and the other party does not deliver a form or document under Section 4(a)(iii)

by reason of material prejudice to its legal or commercial position.

(2) Payee Representations. For the purposes of Section 3(f), Party A and Party B make the representations specified below:

(a) Party A represents and warrants to Party B that it is a national banking association organized under the laws of the United States.

(b) Party B represents and warrants to Party A that it is a corporation created or organized in the United States under the laws of the State of Oregon.

PART 3

Documents to be Delivered

For the purpose of Section 4(a) of the Agreement:

(1) Tax Forms, documents or certificates to be delivered are:

IRS Form W-9

Party required to deliver: Party B

Date by which to be delivered: Upon execution of this Agreement

(2) Documents to be delivered are:

(a) Copies of all documents evidencing necessary corporate and other authorizations and approvals with respect to the execution, delivery and performance by Party B of this Agreement and the Credit Support Document.

Party required to deliver: Party B

Date by which to be delivered: Upon execution of the Agreement

Covered by Section 3(d) Representation: Yes

(b) A copy of a certificate of an authorized officer of Party B, certifying the names, true signatures and authority of the officers of the party signing this Agreement and the Credit Support Document.

Party required to deliver: Party B

Date by which to be delivered: Upon execution of the Agreement

Covered by Section 3(d) Representation: Yes

(c) An opinion of counsel to Party B and Credit Support Provider covering matters included in Exhibit I and such other matters as reasonably requested by Party A.

Party required to deliver: Party B

Date by which to be delivered: Upon execution of the Agreement

Covered by Section 3(d) Representation: No

(d) Such documents as Party A may reasonably request from Party B in connection with each Transaction.

Party required to deliver: Party B

Date by which to be delivered: Promptly upon request

Covered by Section 3(d) Representation: Yes

(e) Credit Support Document.

Party required to deliver: Party B

Date by which to be delivered: Upon the execution of this Agreement

Covered by Section 3(d) Representation: N/A

(f) Audited Annual Report.

Party required to deliver: Party B

Date by which to be delivered: No later than 180 calendar days after the end of each fiscal year.

Covered by Section 3(d) Representation: Yes

(g) Such written information respecting the condition or operations of Party B as Party A may reasonably request from time to time.

Party required to deliver: Party B

Date by which to be delivered: Promptly upon request

Covered by Section 3(d) Representation: Yes

PART 4

Other Provisions

(1) Obligations/General Conditions. Section 2(a)(ii) of the Agreement shall be modified by adding the following sentence at the end thereof:

"These provisions shall be modified with respect to FX Transactions, Currency Obligations and Currency Options, as provided in Part 6 of the Schedule."

(2) Netting of Payments Election. For each of the following groups of Transactions, Party A and Party B hereby elect to net payments of all amounts payable on the same day in the same currency by specifying that Section 2(c)(ii) of the Agreement will not apply with respect to each of the following groups of Transactions:

(i) FX Transactions entered into by the parties; and

(ii) Currency Options entered into by the parties.

The starting date for the election commences upon entering the first Transaction under the Agreement with respect to either of the above groups of Transactions.

(3) Escrow Payments. If by reason of the time difference between the cities in which payments are to be made, it is not possible for simultaneous payments to be made on any date on which both parties are required to make payments hereunder, either party may at its option and in its sole discretion notify the other party that payments on that date are to be made in escrow. In this case deposit of the payment due earlier on that date shall be made by 2:00 p.m. (local time at the place for the earlier payment) on that date with an escrow agent selected by the party giving the notice, accompanied by irrevocable payment instructions (i) to release the deposited payment to the intended recipient upon receipt by the escrow agent of the required deposit of the corresponding payment from the other party on the same date accompanied by irrevocable payment instructions to the same effect or (ii) if the required deposit of the corresponding payment is not made on that same date, to return the payment deposited to the party that paid it into escrow. The party that elects to have payments made in escrow shall pay the costs of the escrow arrangements and shall cause those arrangements to provide that the intended recipient of the payment due to be deposited first shall be entitled to interest on that deposited payment for each day in the period of its deposit at the rate offered by the escrow agent for that day for overnight deposits in the relevant currency in the office where it holds that deposited payment (at 11:00 a.m. local time on that day) if that payment is not released by 5:00 p.m. local time

on the date it is deposited for any reason other than the intended recipient's failure to make the escrow deposit it is required to make hereunder in a timely fashion.

(4) Additional Representations. The following shall also be representations of Party B under Section 3 of this Agreement (which representations will be deemed to be repeated by Party B at all times until the termination of this Agreement):

(i) IT UNDERSTANDS THAT THE TRANSACTIONS CONTEMPLATED HEREUNDER ARE SUBJECT TO COMPLEX RISKS WHICH MAY ARISE WITHOUT WARNING AND MAY AT TIMES BE VOLATILE AND THAT LOSSES MAY OCCUR QUICKLY AND IN UNANTICIPATED MAGNITUDE;

(ii) it is an Eligible Party;

(iii) it has sufficient knowledge, experience and professional advice to make its own tax, legal, accounting and other financial evaluations of the merits and risks of entering into this Agreement and any Transactions hereunder (including decisions regarding the appropriateness or suitability of each Transaction) and is not relying on advice, statements or recommendations (whether written or oral) of Party A or any Affiliate of Party A in that regard;

(iv) it will make its own independent decisions as to entering into the Transactions contemplated hereunder and acknowledges and agrees that Party A is not acting as a fiduciary or advisor to it in connection with the Transactions contemplated hereunder;

(v) it is prepared to bear and is capable of bearing (financially and otherwise) all risks associated with the Transactions contemplated hereunder;

(vi) its financial condition is such that it has no need for liquidity with respect to its investment in any Transaction which it understands are not readily marketable, and no need to dispose of any portion thereof to satisfy any existing or contemplated undertaking or indebtedness; its investments in and liabilities in respect of any Transaction are not disproportionate to its net worth, and it is able to bear any loss in connection with any Transaction, including the loss of its entire investment;

(vii) it is acting as a principal in connection with each Transaction and not as agent for any other party;

(viii) it enters into this Agreement, and will enter into each Transaction thereunder, for the purpose of portfolio or currency management, asset, risk and liability management, or hedging activities;

(ix) it understands that Party A has no obligation or intention to register any Transactions under the Securities Act of 1933, as amended, or any state securities law or other applicable federal securities law;

(x) Party A is not acting as a fiduciary in respect of Party B and has no responsibility governing the conduct of fiduciaries or investment advisors as may be applicable to Party B; and

(xi) it understands no obligations of Party A to Party B hereunder will be entitled to the benefit of deposit insurance and that such obligations will not be guaranteed by any Affiliate of Party A or any governmental agency.

(5) Transfer. Subsection (a) of Section 7 of the Agreement will not apply to Party B.

PART 5

Miscellaneous

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(1) Confirmations. Notwithstanding anything to the contrary in the Agreement and subject to Part 6(1) and (3) with respect to FX Transactions, Currency Obligations and Currency Options, as applicable:

(a) The parties hereto agree that with respect to each Transaction hereunder a legally binding agreement shall exist from the moment that the parties hereto agree on the essential terms of such Transaction, which the parties anticipate will occur by telephone.

(b) For each Transaction Party A and Party B agree to enter into hereunder, Party A shall promptly send to Party B a Confirmation setting forth the terms of such Transaction. Party B shall execute and return the Confirmation to Party A or request correction of any error

within three Business Days of receipt except in the case of Transactions covered by Part 6, in which case the Confirmations will be deemed to be correct unless Party B notifies Party A of an error within three Business Days of receipt. Failure of Party B to respond within such period shall not affect the validity or enforceability of such Transaction and shall be deemed to be an affirmation of such terms.

(2) (i) The "Governing Law" and "Jurisdiction" provisions of Section 13(a) and (b) of the Agreement are amended in their entirety to read as follows:

(a) Governing Law. This Agreement will be governed by and construed in accordance with the laws of the State of New York without reference to choice of law doctrine.

(b) Jurisdiction. With respect to any suit, action or proceedings relating to this Agreement ("Proceedings"), each party irrevocably submits to the exclusive jurisdiction of the courts of the State of New York and the United States District Court located in the Borough of Manhattan in New York City, and waives (a) any objection which it may have at any time to the laying of venue of any Proceedings brought in any such court, (b) any claim that such Proceedings have been brought in an inconvenient forum and (c) the right to object, with respect to such Proceedings, that such court does not have any jurisdiction over such party.

(ii) The "Service of Process" provisions of Section 13(c) shall be amended with respect to Party B as follows: Service of Process. Party B irrevocably consents to service of process given by mailing, or delivery in person or by courier to the address specified in Part 5(5) of the Schedule below, which process will be complete on the date such process is so mailed or delivered. Party B waives any defect in service caused by its failure to notify Party A in writing of any change in its address. Nothing in this Agreement will affect the right of Party A to serve process in any other manner permitted by law.

(iii) A new Section 13(e) is added to the Agreement as follows: JURY TRIAL WAIVER. EACH PARTY ALSO IRREVOCABLY WAIVES ALL RIGHT TO TRIAL BY JURY IN ANY SUIT, ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS AGREEMENT.

(3) Offices. The provisions of Section 10(a) will not apply to this Agreement and all Transactions will be entered into through the respective party's head or home office.

(4) Multibranch Party. Neither party will be a Multibranch Party under Section 10(c).

(5) Addresses for Notices. For the purpose of Section 12(a) of this Agreement:

Address for notices or communications to Party A:

Address: 333 West 34/th/ Street
2/nd/ Floor
New York, New York 10001

Attention: Director Derivatives Operations

Facsimile No.: 212-615-8594

(For all purposes)

In addition, in the case of notices or communications relating to Section 5, 6, 11 or 13 of this Agreement, a second copy of any such notice or communication shall be addressed to the attention of Party A's legal department as follows:

Address: Capital Markets Legal Department
388 Greenwich Street
20/th/ Floor
New York, New York 10013

Attention: Department Head

Address for notices or communications to Party B:

Address: Cell Therapeutics Corporate Development, Inc.
C/O: Cell Therapeutics, Inc.
501 Elliott Avenue West, Suite 400
Seattle, Washington 98119
Attention: Louis Bianco
Telephone No.: (206) 282-7100 Telefax No.: (206)272-4317

E-Mail:
(For all purposes)

(6) Effective Notice. (a) Section 12(a) is hereby amended by deleting the parenthetical in lines 2 and 3 thereof; and (b) Section 12(a) is further modified by adding the following paragraph at the end thereof:

Anything herein notwithstanding, notice by Party A to Party B is effective (i) if notice is in writing, on the date it is delivered or, if delivery is refused, the date delivery is attempted, (ii) if notice is received, on the date of receipt even if receipt is after the close of business on a Local Business Day; (iii) if notice is oral, when made in the case of notification of (a) a Valuation Date and the calculation on each Valuation Date, (both as described in the Credit Support Document); (b) an Event of Default for the failure of Party B to deliver Collateral pursuant to any Credit Support

Document and (c) an Early Termination Date arising from any such Event of Default specified in (b) above.

(7) Telephonic Recording. Each party consents to the recording of all telephonic conversations between them and agrees that any such tape recordings may be submitted in evidence in any Proceedings relating to the Agreement. In the event of any dispute between the parties as to the terms of a Transaction governed by the Agreement or the obligations thereby created prior to the execution of a Confirmation for such Transaction, the parties may use electronic recordings between the persons who entered into such Transaction as the preferred evidence of the terms of such Transaction.

(8) Severability. Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions of the Agreement or affecting the validity or enforceability of such provision in any other jurisdiction unless such severance shall substantially impair the benefits of the remaining portions of this Agreement or changes the reciprocal obligations of the parties. The parties hereto shall endeavor in good faith negotiations to replace the prohibited or unenforceable provision with a valid provision, the economic effect of which comes as close as possible to that of the prohibited or unenforceable provision.

(9) Each of the parties to this Agreement agree that the appropriate provisions of Annexes 1-5 inclusive of the EMU Protocol published by ISDA on 6th May 1998 (the "Annexes") are incorporated herein by reference and that the terms of this Agreement and each Transaction governed hereby shall be deemed to be amended as if the parties had adhered to such Annexes.

IN WITNESS WHEREOF the parties have executed this document on the respective dates specified below with effect from the date specified on the first page of this document.

CITIBANK, N.A., NEW YORK	CELL THERAPEUTICS CORPORATE DEVELOPMENT, INC.
By:_____	By:_____
Print Name:_____	Print Name:_____
Title:_____	Title:_____
Date:_____	Date:_____

Exhibit 21.1

Subsidiaries of Cell Therapeutics, Inc.

CTI Technologies, Inc., a Nevada Corporation, PolaRx Biopharmaceuticals, Inc., a Delaware Corporation, PanGenex, Inc., a Delaware Corporation, Cell Therapeutics (UK) Limited, a Limited Liability Corporation, CTI Corporate Development, Inc., an Oregon Corporation.

Exhibit 23.1

Consent of Ernst & Young LLP, Independent Auditors

We consent to the incorporation by reference in the Registration Statements (Form S-8 Nos. 333-65200, 333-58957 and 333-35919) pertaining to the Cell Therapeutics, Inc. 1994 Equity Incentive Plan and the Cell Therapeutics, Inc. 1996 Employee Stock Purchase Plan and to the incorporation by reference in the Registration Statements (Form S-3 Nos. 333-93835, 333-33872,333-36038, 333-41300 and 333-67906) of Cell Therapeutics, Inc. and in the related Prospectuses of our report dated February 8, 2002, with respect to the financial statements and schedule of Cell Therapeutics, Inc. included in the Annual Report (Form 10-K) for the year ended December 31, 2001.

/s/ ERNST & YOUNG LLP

Seattle, Washington
March 29, 2002