INOVIO PHARMACEUTICALS, INC.

FORM 10-K
(Annual Report)

Filed 03/30/04 for the Period Ending 12/31/03

Address	11494 SORRENTO VALLEY ROAD
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Industry	Biotechnology & Drugs
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

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

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2003

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 NO. 0-29608

GENETRONICS BIOMEDICAL CORPORATION

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE (State or other jurisdiction of incorporation or organization)	**33-0969592** (I.R.S. Employer Identification No.)
11199 SORRENTO VALLEY ROAD **SAN DIEGO, CALIFORNIA** (Address of principal executive offices)	**92121-1334** (Zip Code)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE: **(858) 597-6006**

SECURITIES REGISTERED PURSUANT TO SECTION 12(B) OF THE ACT:

COMMON STOCK, $0.001 PAR VALUE (Title of Class)	**AMERICAN STOCK EXCHANGE** (Name of Each Exchange on Which Registered)

SECURITIES REGISTERED PURSUANT TO SECTION 12(G) OF THE ACT: **NONE**

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

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

Indicate by check mark if whether the Registrant is an accelerated filer (as defined, in Exchange Act Rule 12b-2). Yes ☐ No ☒

The aggregate market value of the voting and non-voting common equity (which consists solely of shares of Common Stock) held by non-affiliates of the Registrant as of June 30, 2003 was approximately $36,025,639 based on $0.72, the closing price on that date of the Registrant's Common Stock on the American Stock Exchange. The number of shares outstanding of the Registrant's Common Stock, $0.001 par value, was 69,312,880 as of March 12, 2004.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Definitive Proxy Statement issued in connection with the 2004 Annual Meeting of Stockholders of the Registrant are incorporated by reference into Part III.

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THIS ANNUAL REPORT ON FORM 10-K CONTAINS FORWARD-LOOKING STATEMENTS THAT INVOLVE RISKS AND UNCERTAINTIES. SUCH STATEMENTS INCLUDE, BUT ARE NOT LIMITED TO, STATEMENTS CONTAINING THE WORDS "BELIEVES," "ANTICIPATES," "EXPECTS," "ESTIMATES" AND WORDS OF SIMILAR MEANING. THE COMPANY'S ACTUAL RESULTS COULD DIFFER MATERIALLY FROM ANY FORWARD-LOOKING STATEMENTS, WHICH REFLECT MANAGEMENT'S OPINIONS ONLY AS OF THE DATE OF THIS REPORT, AS A RESULT OF SUCH RISKS AND UNCERTAINTIES. THE COMPANY UNDERTAKES NO OBLIGATION TO REVISE OR PUBLICLY RELEASE THE RESULTS OF ANY REVISIONS TO THESE FORWARD-LOOKING STATEMENTS. FACTORS THAT COULD CAUSE OR CONTRIBUTE TO SUCH DIFFERENCES INCLUDE, BUT ARE NOT LIMITED TO, THOSE FOUND IN THIS ANNUAL REPORT ON FORM 10-K IN PART I, ITEM 1 UNDER THE CAPTION "CERTAIN RISK FACTORS RELATED TO THE COMPANY'S BUSINESS," IN PART II, ITEM 7 UNDER THE CAPTION "MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS" AND ADDITIONAL FACTORS DISCUSSED ELSEWHERE IN THIS ANNUAL REPORT AND IN OTHER DOCUMENTS THE COMPANY FILES FROM TIME TO TIME WITH THE SECURITIES AND EXCHANGE COMMISSION, INCLUDING ITS QUARTERLY REPORTS ON FORM 10-Q. READERS ARE CAUTIONED NOT TO PLACE UNDUE RELIANCE ON ANY FORWARD-LOOKING STATEMENTS.

PART I

ITEM 1. BUSINESS

OVERVIEW

We are a San Diego-based biomedical company whose technology platform is based on medical devices that use Electroporation Therapy (EPT) to deliver drugs and genes into cells. We are developing and commercializing novel medical therapies to address a number of critical unmet treatment needs using EPT. Our MedPulser System is in late stage development in the United States for the treatment of head and neck cancer. This system delivers electrical pulses to tumors injected with the generic drug bleomycin. The unique feature of the system, which uses a generator together with disposable needle applicators, is the preservation of healthy tissue at the margins of the tumor. We believe this may afford distinct advantages over surgery in preserving function and improving the quality of life for cancer patients who would otherwise face significant morbidity associated with cancer surgery. We believe that the planned commercial launch of our CE certified MedPulser System in Europe in 2005 represents an important milestone for us. We have also been developing devices for the delivery of DNA for DNA vaccinations and gene therapy. We believe that through our research efforts and those of our corporate partners, that we will soon execute the first clinical study involving the use of EPT with DNA involving human patients. We believe that our compelling asset base of intellectual property and scientific and engineering accomplishments, combined with clinical results position us as a leader in EPT.

The primary front line treatment of solid tumors involves surgical resection and/or radiation to debulk and control tumor growth prior to initiating systemic therapy with chemotherapeutic agents. Because surgeons often cannot distinguish the border, or margins, between healthy and diseased tissue, they will often resect an area outside of the obvious tumor mass. This can result in the loss of function and appearance of the surrounding tissues and organs, reducing the patient's quality of life. Examples include the loss of speech from resection of tumors on the tongue and larynx or loss of erectile function from resection of the prostate. Recent advances in non-surgical forms of tumor ablation, such as cryoablation, microwave or high frequency radio ablation therapy, fail to meet clinical needs in preserving normal healthy tissue. Given the desire for improved outcomes in the surgical resection of a large number of solid tumors such as head and neck, cutaneous, pancreatic, breast and prostate cancer, we believe that there will be significant demand for its technology from surgical oncologists.

We believe that attempts to pioneer new therapies based on DNA have been hampered by the use of viral vectors to deliver DNA. In addition to safety issues, viral vectors are difficult and expensive to manufacture. Because electroporation has proven efficient and safe in animal experiments, we are developing a MedPulser DNA Delivery System. By engineering different applicators, we can deliver DNA to the muscle, skin or vasculature. This should facilitate attempts to use DNA for therapies ranging from vaccination to gene therapy of single or multiple gene defects, including cancer and vascular diseases. As with our oncology program, we believe that our efforts in DNA delivery position us as a leader in the field.

Our Internet website address is www.genetronics.com. We make our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, Forms 3, 4, 5 filed on behalf of directors and executive officers, and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities and Exchange Act of 1934, available free of charge on our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission (the "SEC"). You can learn more about us by reviewing such filings on our website or at the SEC's website at www.sec.gov.

RECENT DEVELOPMENTS

On July 16, 2003, we issued a press release announcing that we had raised an aggregate of $15,670,000, through the sale of $8,170,000 of our Series A Cumulative Convertible Preferred Stock and $7,500,000 of our Series B Cumulative Convertible Preferred Stock, to institutional and accredited investors. All proceeds from the sale of Series A and Series B Cumulative Convertible Preferred Stock have been received.

On October 20, 2003, we announced that we had entered into an agreement with Vical Incorporated (NASDAQ: VICL) pursuant to which Vical has an option to a worldwide exclusive license for the use of our proprietary in vivo electroporation delivery technology in combination with Vical's vaccine and therapeutic DNA

technology for undisclosed targets. Upon completion of a collaborative research program, our partnership with Vical could lead to a definitive licensing agreement, encompassing multiple indications with the potential for commercialization.

On November 10, 2003, we announced that we appointed Gene Larson to our Board of Directors.

On December 2, 2003, we announced that we had extended our collaborative agreement with Chiron to conduct additional experiments using electroporation to test an HIV DNA vaccine. We are testing our preclinical and clinical grade electroporation devices in combination with Chiron's PLG DNA particle technology for use in DNA vaccination applications. The agreement was extended in order for Chiron to complete studies that explore the feasibility of future clinical development of a DNA vaccine against HIV, the causative agent for AIDS. In addition to the studies covered by this agreement, we have an agreement with Chiron to explore electroporation-assisted delivery of a second DNA vaccine for an unnamed indication.

On December 18, 2003, we announced that we had appointed Simon X. Benito to our Board of Directors.

On January 20, 2004, we announced that we have been granted two new U.S. patents. The first patent includes claims to novel, less severe methods for delivering an agent, such as a drug or polynucleotide, into a cell. We believe that this patent enhances the intellectual property for the oncology, gene therapy and DNA vaccine applications of electroporation. The second patent includes claims to methods for reducing changes in target muscle tissue from the application of an electric field, the key elements including electric pulsing parameters. We believe this patent has applicability in the field of gene therapy and DNA vaccines.

On February 4, 2004, we announced that we have entered into an agreement with RMR Technologies, LLC ("RMR"), to permit us to commercialize RMR's electroporation methods and devices on a worldwide exclusive basis. This extends a long-standing relationship with University of South Florida scientists and RMR founders Drs. Richard Heller, Mark Jaroszeski, and Richard Gilbert, dating back to the co-development of our CE marked MedPulser technology for the treatment of solid malignant tumors including head and neck cancers.

During the first quarter of 2004, we initiated two Phase III head and neck clinical trials in the United States and Europe. On February 23, 2004, we announced that we have completed the Special Protocol Assessment review process with the FDA for the two Phase III pivotal studies to evaluate the use of our MedPulser® Electroporation Therapy System as a treatment for recurrent and second primary squamous cell carcinomas of the head and neck (SCCHN). Three Institutional Review Boards (IRBs) in the U.S. have approved the two protocols to date, and we have initiated patient enrollment. These trials compare EPT to surgery using a primary endpoint of function preservation and secondary endpoints of local tumor control, disease-free survival and overall survival. Shifting from a primary endpoint of survival to a quality of life outcome allows us to carry out clinical trials that we expect may be faster, less costly and have a higher likelihood of success. As a result, our previously announced Phase III head and neck trials focusing on survival as a primary endpoint have been discontinued.

On March 1, 2004, we announced that we have begun treating patients with primary or recurrent squamous cell carcinoma of the head and neck (SCCHN) in a post European regulatory approval clinical study. The clinical study is designed to support the commercialization of our MedPulser® Electroporation System in the European Union (EU). The European clinical study will facilitate adoption of the technology by thought leaders and allow us to apply for reimbursement. Prior clinical trials established the safety and performance of the MedPulser® System for the treatment of SCCHN, leading to approval for sale in the EU based on achieving the CE Mark.

On March 9, 2004, we announced the selection of Quintiles Transnational Corp., a leading global pharmaceutical services organization, as the clinical research organization (CRO) for our clinical trials in the U.S. and Europe for the treatment of head and neck cancer.

BUSINESS OBJECTIVES AND MILESTONES

Our goal is to accomplish the following business objectives and milestones over the next 18 months:

(1) expand patient enrollment in phase III recurrent and second primary head and neck cancer study

(see “Oncology —Overview”);

(2) support and manage CRO efforts for U.S. and European clinical trials (see “Oncology – Overview”);

(3) advance the European clinical study in primary or recurrent squamous cell carcinoma of the head and neck (SCCHN) to support the commercialization of our MedPulser® Electroporation System in the European Union (EU). (see “Oncology —Overview”);

(4) advance the European clinical study for primary and recurrent skin cancers to support commercialization of the MedPulser® (see “Oncology —Overview”) ;

(5) develop additional indications, such as cutaneous, prostate, breast, pancreas and liver cancers (see “Oncology —Overview”);

(6) obtain codes for reimbursement and early sales of the MedPulser® System for the treatment of H&N or cutaneous cancers in Europe (see “Oncology —Overview”);

(7) enter into further industry relationships for the use of our EPT technology in the delivery of specific genes (see “Gene Therapy — Overview”); and

(8) initiate the first Phase I human clinical study involving the use of electroporation with DNA, most likely in the areas of DNA vaccination for infectious disease and/or cancer. (see “Gene Therapy – Overview”)

DRUG AND GENE DELIVERY

We develop equipment that is designed to allow physicians to use EPT to achieve more efficient and cost-effective delivery of drugs or genes to patients with a variety of illnesses. Although there are many diseases where improved drug or gene delivery is important, we believe that our greatest opportunities lie in applying EPT in the areas of oncology and gene therapy (including DNA vaccines) and we are focusing our efforts on these applications.

ONCOLOGY

OVERVIEW

In the area of oncology, we have initiated Phase III clinical trials and have completed Phase II clinical trials in the United States using the MedPulser® System to deliver bleomycin for the treatment of late stage head and neck cancer. Bleomycin is an effective generic chemotherapeutic agent that induces single and double strand DNA breaks in cancer cells. However, because of its size and electrical charge it is difficult to deliver across the cell membrane. We have chosen bleomycin as the chemotherapeutic agent that we deliver for the treatment of cancer because of its unmatched efficacy as a chemotherapeutic agent when delivered by electroporation. Bleomycin has been approved by the FDA in the United States and the Health Protection Branch in Canada, and has been used as a chemotherapeutic agent in North America for the treatment of certain cancers for more than 25 years.

Initially, we made head and neck (H&N) and cutaneous cancers our highest priority. A Phase II trial using EPT and bleomycin to treat late stage recurrent H&N squamous cell carcinoma produced a 25% complete response and 57% objective response, which we believe are excellent results at this disease stage. In a European early stage oral cavity squamous cell carcinoma trial, 16 out of 20 patients (80%) showed no viable cancer cells, which we believe validates EPT’s potential as a primary treatment for H&N cancer. Anecdotally, in a cutaneous cancer trial, 130 of 146 tumors (89%) demonstrated a complete response. Using significantly smaller chemotherapeutic doses than in conventional chemotherapy, results to date indicate that EPT matches or exceeds tumor response and survival results of current traditional therapies while preserving healthy tissue, and resulting in nominal systemic drug distribution and related side effects, and potentially at lower cost. EPT potentially preserves a patient’s appearance or ability to speak, smell, eat, or taste, potentially uniquely enhancing the quality of life of such patients suffering from cancer’s harsh effects.

We have completed a number of other clinical studies in Europe using the MedPulser® System to deliver bleomycin for the treatment of liver, pancreatic, basal cell and Kaposi's sarcoma cancers. The results from the clinical studies that we carried out in Europe have allowed us to obtain a CE Mark certification qualifying the MedPulser® System for sale in Europe. We are continuing to carry out and expand our market seeding clinical studies in Europe using the MedPulser® System to deliver bleomycin for the treatment of both early and late stage head cancer.

In addition to our work in head and neck cancer, we plan to use the MedPulser® System to deliver bleomycin for the treatment of other cancers. We are currently reviewing a number of other cancer indications in order to assess our competitive advantage for the treatment of cancers and the size of the market that we might serve. The next application for which we are preparing protocols for submission to the FDA are for disfiguring cutaneous cancers that may benefit from the tissue and function sparing attributes of EPT+bleomycin.

PARTNERSHIPS AND COLLABORATIONS

On September 20, 2000, the University of South Florida Research, Inc. ("USF") granted us an exclusive, worldwide license to its rights for certain patents and patent applications generally related to needle electrodes. We jointly developed these electrodes with USF. The terms of the exclusive license include a royalty to be paid to USF based on net sales of products under the license. As of December 31, 2002, no royalty had accrued as no sales were generated from this product. In addition, we issued a total of 150,000 Common Shares and a total of 600,000 Warrants (some of which will vest subject to the occurrence of specified milestones) to USF and its designees, Drs. Heller, Jaroszeski, and Gilbert.

On August 8, 2000, we entered into a new supply agreement with Abbott Laboratories ("Abbott") to purchase the approved anti-cancer drug bleomycin for use in the United States with our MedPulser® System after regulatory approval had been granted for its use for the treatment of patients with solid tumor cancers. Under a separate agreement, we entered into a supply agreement with Faulding, Inc. to purchase bleomycin for use in Canada after regulatory approval had been granted for its use. Both agreements provide that we may purchase bleomycin from time to time in accordance with the terms of the respective agreements.

MARKET

We hope to market our MedPulser® System to deliver chemotherapeutic agents, such as bleomycin, for the treatment of cancer. EPT can address many diseases, but we have focused on oncology's significant unmet needs. There is still much that scientists do not know about cancer; consequently, there are significant unmet needs in its treatment. We have initially targeted those indications, such as head and neck cancer, for which current treatments result in a poor quality of life and very high mortality rates.

TREATMENT OF HEAD AND NECK TUMORS

The use of EPT is quite simply understood and easy to apply:

- The physician selects and connects the sterile applicator appropriate for the nature and location of the tumor;
- The patient is given general anesthesia in a hospital operating room setting. Certain future applications may require only local anesthesia;
- The drug is injected into the selected tissue, followed by a brief few-minute interval;
- The applicator needles are then inserted into the tumor;
- The physician activates the electrical pulse using a foot pedal or hand switch;

- For a larger tumor or area, the applicator is reinserted in an overlapping pattern to cover the entire tissue area requiring treatment;

- After treatment, the needle array applicator is disposed of.

The entire procedure can be completed within 20 minutes or less and typically needs to be done only once. The dosage of drug used is based on tumor volume and is typically a small fraction (1/3 to as little as 1/50th) of the dosage that would be used if injected systemically into the patient's blood during chemotherapy. As a result of the lower dosage administered locally, side effects have been minimal. No episodes of injury to normal (non-tumor) tissue adjacent to the tumors have been observed in the patients treated to date.

CLINICAL TRIALS - Head and Neck Cancer

North America Trials

We recently completed the Special Protocol Assessment review process with the FDA for two Phase III pivotal studies to evaluate the use of our MedPulser® Electroporation Therapy System as a treatment for recurrent and second primary squamous cell carcinomas of the head and neck (SCCHN). Three Institutional Review Boards (IRBs) in the United States have approved the two protocols to date. We have initiated patient enrollment. Both protocols will compare our MedPulser® Electroporation Therapy System to surgery in patients that have resectable recurrent or second primary SCCHN. The primary endpoint is to demonstrate that patients treated with electroporation therapy have superior preservation of function (e.g. eating, swallowing, and talking) when compared to surgery. The secondary endpoints include comparing quality of life, safety, and pharmacoeconomics, in addition to showing local tumor control and survival that are equivalent to surgery.

In late 1997 the FDA granted us clearance to initiate multi-center Phase II clinical trials in the United States utilizing the MedPulser ® System in combination with bleomycin to treat squamous cell carcinoma of the head and neck in late stage patients who had failed conventional therapies such as surgery or chemotherapy. We also obtained IND clearance from the Canadian Health Protection Branch to initiate the Phase II trials in Canada. Two Phase II protocols were initiated. The first Phase II was a single crossover controlled study evaluating the effectiveness of the MedPulser EPT System with bleomycin to treat tumors that failed an initial bleomycin-alone treatment. The second Phase II protocol was a single arm study that evaluated the effect of EPT with bleomycin as the only treatment.

Twenty-five patients (37 tumors) were enrolled in the crossover-controlled study and initially received bleomycin-alone treatment. Only one tumor demonstrated a partial clinical response. Seventeen of these patient's lesions were subsequently treated with bleomycin and EPT. Of the 20 lesions treated, 55% achieved an objective clinical response, i.e., complete and partial responses of 50% or greater reduction of tumor size.

In the open-label Phase II (single arm) study, all patients received full bleomycin and EPT as their initial treatment. Among the 25 patients (31 tumors) treated, 58% achieved an objective clinical response.

In a similar open-label single arm study conducted in France, 56% of lesions achieved an objective clinical response, consistent with the North American results.

More recently, market seeding trials in Europe evaluated bleomycin and EPT for early stage primary or recurrent oral cavity squamous cell carcinoma. Sixteen of 20 patient tumors (80%) had no evidence of cancer cells by histopathology assessment following bleomycin EPT four weeks after treatment, which we believe validates EPT's potential as a primary local treatment for H&N cancer.

The results of these H&N cancer studies are provided in the table below.

Study	H&N Cancer Type / Treatment	# Patients	# Tumors	Objective Tumor Response(1)	
				Responding Tumors	Non-Responding Tumors
Phase I/II	Advanced				
North America	Bleo-EPT	10	10	8 (80)%	2 (20)%
Phase II - Study 1	Advanced				
North America	Bleo-alone	25	37	1 (3)%	36 (97)%
Phase II - Study 1 (cross-over)	Advanced				
North America	Bleo-EPT	17	20	11 (55)%	9 (45)%
Phase II - Study 2	Advanced				
North America	Bleo-EPT	25	31	18 (58)%	12 (42)%
Phase II - Study 3	Advanced				
EU	Bleo-EPT	12	18	10 (56)%	8 (44)%
Market Seeding	Primary and				
EU	Early Recurrent				
	Bleo-EPT	20	20	16 (80)%	4 (20)%

(1) Objective tumor response includes complete and partial responses to treatment. Complete response means that no sign of the tumor is present. Partial response means that response to the treatment is greater or equal to a 50% reduction in tumor size.

International Trials

Currently, we have begun treating patients with primary or recurrent squamous cell carcinoma of the head and neck (SCCHN) in a post European regulatory approval clinical study. The clinical study is designed to support the commercialization of Genetronics' MedPulser® Electroporation System in the European Union (EU). Prior clinical trials established the safety and performance of the MedPulser® System for the treatment of SCCHN, leading to approval for sale in the EU based on achieving the CE Mark. The European clinical study will:

- document the clinical and pharmacoeconomic benefits of the MedPulser® Electroporation System in support of reimbursement approval throughout Western Europe,

- establish centers of excellence to facilitate early sales,

- create a reference and customer base among key opinion leaders for a projected European commercial launch in 2005,

- generate safety and efficacy data to support marketing applications in North America.

The European multi-center study will enroll approximately 100 patients with primary or recurrent SCCHN at 12-15 hospitals located in the UK, Germany, Italy, France, Austria, and other western European countries. The study will evaluate the MedPulser® Electroporation System's pharmacoeconomic impact on the cost of operative and post-operative care. It will also examine patient quality of life, preservation of organ function (i.e. ability to speak, swallow, and eat in public), and local tumor control. This data will help to define the overall benefits of the MedPulser® Electroporation System for the treatment of SCCHN relative to surgery, the standard of care, which frequently compromises a patient's ability to speak or swallow and may be grossly disfiguring. The European study differs from the current US Phase III clinical trials, which are controlled two-armed trials for the purpose of filing a New Drug Application (NDA) in the US and are restricted to the treatment of recurrent SCCHN.

In late 1997 and early 1998, we received regulatory approval to initiate clinical trials in France for head and neck cancer, metastatic cancer of the liver, pancreatic cancer, metastatic melanoma and Kaposi's sarcoma and in Australia to initiate an expanded metastatic melanoma study. These trials involved treating multiple lesions with bleo-EPT and control lesions with bleomycin-only on each patient. The overall results of the cutaneous and subcutaneous cancer studies sponsored by Genetronics, Inc. is provided in the table below.

Study	# Patients	Bleo-EPT Tumor Response # Lesions	Bleo-EPT Tumor Response Objective Response(1)	Bleo-alone Tumor Response # Lesions	Bleo-alone Tumor Response Objective Response(1)
Melanoma	44	178	141 (79)%	61	13 (21)%
BCC	25	64	64 (100)%	8	1 (13)%
KS	5	13	13 (100)%	11	6 (55)%

(1) Objective tumor response includes complete and partial responses to treatment. Complete response means that no sign of the tumor is present. Partial response means that response to the treatment is greater or equal to a 50% reduction in tumor size.

The overall average tumor response rate following EPT with bleomycin to cutaneous and subcutaneous cancer was 86% (ranging from 79% for metastatic melanoma to 100% for basal cell carcinoma (BCC) and kaposi's sarcoma (KS) compared with an overall tumor response rate of 25% for bleomycin-alone treated lesions (ranging from 13% for BCC, 21% for metastatic melanoma to 55% for KS cancer).

These trials were initiated to demonstrate the Medpulser ® System device's safety and performance in treating a variety of solid tumors in support of CE Mark certification in accordance with the essential requirement of the Medical Device Directive 93/42/EEC. We received CE Mark certification in March 1999. To date, the MedPulser ® is CE marked as an electroporation device indicated for the treatment of head and neck cancer and for cutaneous and subcutaneous cancers with bleomycin. This certification allows us to market our MedPulser ® within the countries of the European Union.

RESEARCH AND DEVELOPMENT

We have historically directed our research and development activities to the areas of oncology, gene therapy, vascular therapy, transdermal delivery and dermatology. Currently, our areas of focus are oncology and gene therapy.

The following table summarizes our programs in the area of oncology, the primary indications for each product and the current status of development. "Pre-clinical data" means the program is at the stage where results from animal studies have been obtained. "Clinical Trials" means that human data is available. In March 1999, we received CE Mark certification in Europe. This certification allows us to market our MedPulser® System within the countries of the European Union. Commercial launch is dependent on having compelling data from the ongoing market seeding trials and pharmacoeconomic data with which to obtain national reimbursement or hospital purchasing under approved codes.

Clinical Development Status

Progress in Pre-Clinical Development and Clinical Trials Applications	Pre-Clinical Studies In Vitro	Pre-Clinical Studies In Vivo	Human Clinical Studies Phase I	Human Clinical Studies Phase II	Human Clinical Studies Phase III/IV ***
Therapeutic Drug Delivery					
Oncology					
Head & Neck	✓	✓	✓	✓	✓
Cutaneous BCC & SCC	✓	✓	✓	✓	✓
Melanoma	✓	✓	✓	✓	
Kaposi's Sarcoma	✓	✓	✓		
Pancreas	✓	✓	✓		
Liver	✓	✓	✓		
Breast	✓	✓			
Prostate	✓	✓			
Hepatocellular Carcinoma	✓	✓			
Lewis Lung Carcinoma	✓	✓			
Non-Small Cell Lung	✓	✓			
Fibrosarcoma	✓	✓			
Glioma	✓	✓			
Ovarian	✓				
Dermatology					
Vitamin C	✓	✓			
Warts	✓	✓			
Vascular	✓	✓			
DNA Delivery					
DNA Vaccines	✓	✓			
Gene Therapy	✓	✓	✓**		

✓ = *Completed*
IP = In Progress
** Efficacy studies conducted in North America with approval of selected clinics' Investigational Review Boards (IRB) or in the EU by clinics' Ethics Committees*
*** Ex-vivo Phase I study*
**** Phase IV trial is in EU only*

Our research and development efforts in the field of oncology will focus on preparing for a strategic alliance with a major partner in oncology, expanding applications of the MedPulser® System, and designing the next generation of EPT devices. Preparations for forging a strategic alliance include the organization and summarizing of engineering, pre-clinical and clinical data and records to be able to convey information to strategic partners in the most effective manner. The expansion of the MedPulser® System to additional applications is intended to involve pre-clinical and engineering work regarding the treatment of additional types of cancers, and the design and manufacture of new types of electrode applicators, such as an applicator for treating laryngeal cancer. We intend to develop second-generation EPT devices for cancer treatment to include devices causing reduced muscle contractions and a device specifically targeted for treating deep-seated tumors, such as prostate tumors. Finally, we intend to continue to strengthen our intellectual property position in the oncology area by pursuing patent protection of any new inventions.

COMPETITION

Current Treatment Practices

Surgery

The primary treatment (90%) for localized and operable tumors or lesions is surgical resection alone or in combination with other modalities. Given the ability to cut an appropriate margin around the tumor, surgery is highly effective for early stage cancers, but accessibility of a tumor often prevents its use or limits the margin that can be removed. The drawback of cutting away tissue is potential disfigurement or debilitating effects on organ function. Surgery may require a costly hospital stay.

Radiation Therapy

Radiation therapy's high-energy rays, generated by an external machine, or by radioactive materials placed directly into or near the tumor, are used to damage and stop growth of malignant cells. It is typically used in place of or in conjunction with surgery, or afterwards to destroy remaining cancer cells. It damages healthy cells surrounding the target area and takes several weeks to administer.

Chemotherapy

Where surgery is not an option, chemotherapy is often combined with radiation. Typically, a secondary or palliative treatment with the goal of helping control tumor growth and making a patient more comfortable, it is used under the following circumstances:

- When a cancer has advanced from a local tumor and has become a larger regional mass or has metastasized to other organs;
- When the tumor is difficult to access;
- For organ preservation, when appearance and/or function are threatened; and
- For palliation, to achieve tumor shrinkage that may improve quality of life.

The cytotoxicity of many existing anti-cancer drugs is well proven, but their systemic application in required high dosages produces many detrimental side effects, including: alopecia (loss of hair), nausea, vomiting, myelosuppression and in some cases drug resistance.

Surgery and radiation cannot be used where treatment poses a risk to nearby nerves, blood vessels, or vital organs. All of these practices have limited efficacy in treating cancers of certain organs, such as the pancreas.

Alternative Treatments

Radio Frequency Ablation

This modality uses radio frequency energy to heat tissue to a high enough temperature to ablate it, or cause cell death. An ablation probe is placed directly into the target tissue. An array of several small, curved electrodes are deployed from the end of the probe. Once sufficient temperatures are reached, the heat kills the target tissue within a few minutes. This treatment has been proven efficacious in treating solid tumors. It also destroys surrounding healthy tissue and can result in burns.

In October 2002, RITA Medical Systems announced that a study of its system for ablation of nonresectable (not treatable with surgery) primary or metastatic liver cancer showed increased median survival rates of two- to three-fold compared to historical survival rates for patients treated with chemotherapy alone. It also separately announced that it received clearance from the FDA to market a procedure to ease pain caused by bone tumors. The study showed that 95 percent of patients treated with the procedure experienced a clinically significant reduction in pain from bone tumors. We understand that its product is establishing early commercial success and RITA Medical Systems is expanding its focus to other indications. We anticipate that radio frequency ablation may be a competitive treatment and it may need to contend with RITA and bone metastases and reimbursement in Japan.

Photodynamic Therapy (PDT)

PDT uses intravenous administration of a light-activated drug that naturally accumulates in malignant cells. A non-thermal laser is used to activate the drug, producing free radical oxygen molecules that destroy the cancer. PDT has low risk of damage to adjacent normal tissue, the ability to retreat, and can be used concurrently with other treatment modalities. A major side effect of PDT is photosensitivity that can last up to eight weeks. Other side effects include nausea and vomiting. This method is limited to penetration just below the skin or organ lining.

Axcan Pharma announced in June 2002 long-term results from its Phase III clinical trial on PHOTOFRIN (which it licensed from QLT Inc.) for the treatment of high-grade dysplasia associated with Barrett's Esophagus. This condition results from prolonged acid reflux (heartburn). In this analysis, Axcan announced that 138 patients in the PHOTOFRIN PDT group and 70 patients in the comparative group were followed for a minimum 2-year period (median 3.5 years). Axcan announced that esophageal cancer occurred in only 13% of patients treated with PHOTOFRIN PDT compared to 27% of patients treated with omeprazole alone, a statistically significant 52% reduction.

Cryoablation

Cryoablation is a technique being tested for liver, kidney, prostate, and breast cancer, for which it is being heralded as a method to avoid scarring. This method freezes cancer cells with liquid nitrogen. Necrosis (cell death) occurs and the dead cells are naturally sloughed off into the body. Cryoablation is a relatively inexpensive treatment modality. The treatment of prostate cancer can result in impotence. Tumor accessibility may be a limitation and this modality also damages healthy tissue. Cryoablation may be a competitive treatment modality for certain indications.

Biological Therapy or Immunotherapy

This treatment encompasses many approaches focused on invoking an immune response against the cancer, including vaccine-based treatments and treatments using monoclonal antibodies.

One leading type of immunotherapy perceived as a medical breakthrough uses epidermal growth factors (EGF) or EGF inhibitors. These drugs are thought to interfere with EGF receptors found on the surface of many cancer cells. When this receptor is triggered, it instructs the cell to grow and divide into two new cells. EGF inhibitors are thought to not only prevent or slow the division of cancer cells, but also enhance the killing power of chemotherapeutics.

One candidate, Iressa, is being tested in lung cancer, but may eventually be applicable to head and neck and other solid tumor cancers targeted by us. In August 2002, AstraZeneca reported that two Phase III clinical trials involving 2,000 patients showed that Iressa, taken in pill form, did not provide improvement in survival when added to chemotherapy as a first-line therapy. However, in September 2002, an FDA advisory committee voted that Iressa Phase II data demonstrated sufficient efficacy as a third-line therapy, appearing to ensure accelerated approval of the drug. Imclone Systems, OSI Pharmaceuticals, Genentech, and Abgenix are also developing drugs that interfere with the EGF protein.

DNA DELIVERY

OVERVIEW

In the context of this section, DNA delivery refers to the transfer of therapeutic DNA molecules into cells of humans or animals to prevent or treat diseases. Therapeutic DNA delivery can be performed either *ex vivo* or *in vivo*. *Ex vivo* DNA delivery involves the delivery of DNA into cells outside the body. Typically, a small amount of tissue or blood is removed from the patient and the cells within that tissue are propagated outside the body. After they have grown to a sufficient mass, new genetic information in the form of DNA is introduced into the cells. The genetically modified cells, typically blood, bone marrow or other cells, are then returned to the patient, usually by blood transfusion or direct engraftment. *In vivo* DNA delivery is the introduction of genetic information directly into cells within the patient's body. Theoretically, any tissue or cell type in the body can be used, and the choice is dependent upon the specific goals of treatment and indications being treated. For internal tissue targets, a gene may be transfused through the blood stream to the organ or site of action, or it may be injected at the desired site and then electroporated to allow the gene to pass through the cell membrane of the cells present at the treatment site. Once the DNA is inside the cell, it finds its way to the nucleus where RNA copies are made from the therapeutic genes encoded in that DNA. The RNA copies are then translated into specific proteins, which either accumulate inside the cell or are secreted into the cellular environment from where they eventually enter the lymph or blood stream. Thus, therapeutic genes may either act locally or systemically.

Both for DNA vaccines and gene therapy, effective DNA delivery technologies are crucial. Many of the leading scientists in these fields have pointed out that the major obstacle to success is the lack of safe, efficient, and economical methods of delivering DNA.

Methods that have been used in the past, including a variety of viral vectors, lipid formulations, the "gene gun" approach, and "naked" DNA injection, have not been successful. Reasons include: toxicity, safety issues, low efficiency, and concerns about economic feasibility. Of the more than 600 gene therapy and DNA vaccine clinical trials started in the US to date, none have progressed to regulatory approval. We believe that the DNA delivery problem must be solved if the promise of gene therapy and DNA vaccines are to be fulfilled.

The simplest DNA delivery mode is the injection of "naked" plasmid DNA into target tissue, usually skeletal muscle. This method is safe and economical but inefficient in terms of cell transfection. However, when naked DNA injection is followed by electroporation of the target tissue, transfection efficiency is generally enhanced 100 to 1000-fold. This increase makes many gene therapy and DNA vaccination projects feasible without unduly compromising safety or cost. We believe we are a leading company in the field of in vivo DNA delivery.

In recent years, DNA vaccine projects have increased in number and scope while pharmaceutical companies have slowed or shelved most gene therapy projects. This shift was prompted both by serious incidents in the gene therapy area caused by the toxicity of viral vectors, and by a strong demand for better vaccines. Within a few years, surprisingly rapid progress has been achieved in the development and testing of DNA vaccines. This trend is also reflected in our shift from gene therapy to DNA vaccines. The latter are now the subject of most of our DNA delivery projects and partnerships and we expect to commence clinical trials in approximately one year.

We believe that the greatest obstacle to making DNA vaccines and gene therapy a reality, namely the safe, efficient, and economical delivery of the DNA construct into the target cells, may be surmounted by our electroporation technology. The instrumentation we use for high-efficiency *in vivo* gene transfer is derived from the instrumentation we developed for intratumoral and transdermal drug delivery. We believe electroporation may become the method of choice for DNA delivery into cells in many applications of DNA vaccination and gene therapy.

DNA VACCINES

DNA vaccines consist of DNA molecules that are introduced into cells of humans or animals with the purpose of evoking an immune response, either to prevent a disease (prophylactic vaccines) or to treat an existing disease (therapeutic vaccines). The information encoded in the vaccine DNA molecules directs the cells to produce proteins ("antigens") that trigger the immune system to mount two responses; the production of antigens and the activation of "killer cells." These responses can neutralize or eliminate infectious agents (viruses, bacteria, and other microorganisms) or abnormal cells (e.g. malignant tumor cells). DNA vaccines have several advantages over traditional vaccines: they are completely non-pathogenic, may be effective against diseases which cannot be controlled by traditional vaccines, and are relatively easy and inexpensive to produce. These vaccines are also stable at normal environmental conditions for extended periods of time and do not require continuous refrigeration. A potentially major advantage of DNA vaccines is their short development cycle. In principle, vaccines against new infectious agents may be developed within weeks or months, as opposed to traditional vaccines that take years for development.

We have acquired considerable expertise in the delivery and efficacy evaluation of DNA vaccines, both against infectious agents and complex metabolic diseases. In most cases, we have chosen skeletal muscle as the target tissue for vaccine delivery. However, skin is also an attractive target for DNA vaccination and we have developed and patented technology for DNA delivery into skin cells as well. "Vaccinating" skin with DNA that encodes specific antigens present in infectious agents or in tumor cells may produce immunological responses superior to those achieved by vaccination via muscle.

GENE THERAPY

Gene therapy, as well as DNA vaccination, involves the introduction of new genetic information into cells for therapeutic purposes. However, in gene therapy, cells of the body are transfected with a specific gene to compensate for a genetic defect that results in a deficiency of a specific protein factor. In this context, one goal of gene therapy is to convert target cells or tissues into "protein factories" for the production and secretion of a normal protein for local or systemic treatment. Many genetic illnesses, including those currently treated by regular injection of a missing protein, can potentially be "cured" by supplying the functional gene to a sufficient number of cells under conditions which allow these cells to produce a therapeutically effective dose of the protein.

Currently, single-gene recessive genetic disorders are the most accessible targets for correction by gene therapy, but ultimately researchers believe that polygenic and acquired diseases will be treated using genes as pharmaceutical agents. In principle, any aspect of metabolism can be manipulated by modifying gene function, and

it is this application of gene therapy that has enormous potential, extending far beyond the treatment of rare genetic diseases. For example, the ability to influence cellular metabolism by introducing specific genes has led to extensive investigations into the use of gene therapy for cancer treatment. By adding a tumor suppressor gene to certain types of cancers, the uncontrolled growth of those cells potentially could be brought under normal regulation. Likewise, transfecting tumor cells with genes capable of inducing programmed cell death may result in tumor death.

As mentioned earlier, gene therapy can be performed by delivering DNA either *ex vivo* or *in vivo* . We have focused on *in vivo* DNA delivery, in particular delivery into skeletal muscle tissue. To a lesser extent, we have also explored DNA delivery into skin, cancer tissue and blood vessel walls for gene therapy purposes.

STRATEGY

In advanced pre-clinical trials our technology has enabled high levels of DNA uptake and gene expression without significant acute side effects. Based on the results obtained, we believe that our technology is well suited as compared to competing technologies to meet the requirements for DNA vaccines and gene therapy. We have adopted the strategy of co-developing DNA vaccine and gene therapy applications where possible, or licensing our gene delivery technology for specific genes or specific medical indications. In most cases, we provide proprietary instruments and expertise to optimize the delivery of genes for particular applications, and a partner company provides its proprietary gene or gene regulation technology. Our collaboration with partners allows pre-clinical research and clinical trials to be undertaken which may lead to the introduction of a new treatment and/or products in the marketplace at a rate and range which we would not be able to support on our own. Our goal is to enter into at least two new agreements with respect to the licensing of our EPT technology for use in the delivery of specific genes on or before December 31, 2004. See “Business Objectives and Milestones”.

PARTNERSHIPS AND COLLABORATIONS

DNA VACCINES

On October 18, 2000, we entered into a Cooperative Research and Development Agreement (CRADA) with the Naval Medical Research Center in Silver Springs, Maryland, to evaluate the effectiveness of our technology in the delivery of an improved vaccine for the treatment of malaria. For reasons beyond our control, the project has been delayed, but is still active.

On December 2, 2003, we announced the extension of our collaboration with Chiron to continue to explore the delivery of its proprietary DNA vaccine for HIV using EPT, with the potential for possible clinical development. We previously had entered into evaluation and option agreements with Chiron for the delivery of one or more of Chiron’s DNA vaccines for the treatment of infectious diseases using our DNA delivery technology. In accordance with these agreements, we have granted an option to Chiron, during the terms of the agreements and for three months thereafter, to license our EPT technology for use in the field of certain DNA vaccines. The extension of these agreements expires on May 21, 2005. Based on a separate agreement that expired on November 11, 2003, Chiron is also using EPT on another DNA vaccine candidate for an undisclosed target. Receipt of the official project report is still pending.

On October 20, 2003, we entered into an agreement with Vical Incorporated (NASDAQ: VICL) wherein Vical has an option to a worldwide exclusive license for the use of our proprietary in vivo electroporation delivery technology in combination with Vical’s vaccine and therapeutic DNA technology for undisclosed targets. Upon completion of a collaborative research program, this partnership could lead to a definitive licensing agreement, encompassing multiple indications with the potential for commercialization.

GENE THERAPY

In November 2001, we entered into a non-exclusive license and supply agreement with Valentis to use our MedPulser® System for the development of certain Genemedicine™ products. When combined with Valentis’ GeneSwitch™ gene regulation system, EPT allows researchers to control the level and duration of gene expression in cells for up to several months. Valentis is currently developing gene therapies, including the use of the EPO gene

for the stimulation of red blood cell production in the treatment of anemia, employing our MedPulser ® System together with its GeneSwitch ™ technology.

On May 24, 2002, we entered into a research and option agreement with Boehringer Ingelheim Pharma KG to evaluate the effectiveness of our technology in the delivery of genes for the treatment of vascular disease. Boehringer may exercise an option to license our technology until March 30, 2004 unless the agreement is extended by mutual consent.

On June 10, 2003, we entered into two new cooperative research and development agreements (CRADA) with the Naval Medical Center San Diego to further assess the feasibility of using in vivo electroporation (EP) enhanced DNA delivery of various functional growth factor genes e.g. TGF-beta, for the purpose of improving the healing process for incisional wounds and laser injured skin. Experimental studies will be conducted in a large animal model. If successful, this non-invasive electroporation system could prove beneficial in treating a variety of serious medical conditions, including severe burns and decubitus ulcers (pressure sores).

On February 4, 2004, we entered into an agreement with RMR Technologies, LLC. ("RMR"), to permit us to commercialize RMR's electroporation methods and devices on a worldwide exclusive basis. This extends a long-standing relationship with the University of South Florida scientists and RMR founders Drs. Richard Heller, Mark Jaroszeski, and Richard Gilbert, dating back to the co-development of our CE marked MedPulser technology, for treatment of all types of solid tumors including head and neck cancers. RMR is the collective effort of three scientists, collaborating with the University of South Florida and the H. Lee Moffitt Cancer Center and Research Institute.

The research carried out under the above agreements may result in our entering into long-term license agreements with the other parties and should provide us with additional data that we believe will assist us in assessing the efficacy of using our MedPulser® System for delivery of DNA vaccines and gene delivery and should further assist us in our other licensing and commercialization efforts.

In addition to the above collaboration and licensing arrangements, it is our goal to develop our own gene therapeutic. Currently we are performing an assessment of candidate genes with respect to their availability, their probable effectiveness with respect to a particular disease, our competitive advantage regarding the delivery of the gene, and the size of the market we might serve. Once we have completed our review, we may have to negotiate a license for the gene if it is not in the public domain and plan to initiate pre-clinical studies with respect to its safety and efficacy when using EPT to deliver the gene into the cells of animals. If our pre-clinical data is positive, we intend to proceed to file an IND with the FDA with respect to the use of EPT to deliver the gene in humans in the treatment of the chosen disease.

MARKET

DNA VACCINES

We believe that there is a significant unmet clinical need to develop more efficacious vaccines that stimulate cellular immunity or can be applied in therapeutic settings such as cancer, hepatitis C or HIV infection. For these applications, scientists believe that DNA vaccines may offer an improvement over classical vaccination. Our scientists believe that electroporation of naked DNA is critical in maximizing the efficiency of DNA vaccination in meeting the unmet clinical need for therapeutic vaccines. We therefore plan to work with its corporate partners to develop electroporation for the delivery of DNA vaccines to capture what some analysts consider a multi-billion dollar market opportunity.

GENE THERAPY

The gene therapy market includes treatment of single gene defects as well as complex polygenic diseases such as cancer and vascular diseases. Examples of markets for single gene defects include hemophilia, sickle cell anemia, and EPO deficiency. For sickle cell anemia, one of the most prevalent genetic diseases, there is presently no effective and sustainable treatment available. EPO deficiency affects cancer patients undergoing chemotherapy, patients with chronic kidney failure, and others as well.

In addition to the many diseases caused by single gene defects, the two major polygenic disease groups, vascular disease and cancer, are prime targets for gene therapy. For the market in cancer, see “Business— Drug and Gene Delivery Division — Market — Oncology”.

RESEARCH AND DEVELOPMENT

The following table summarizes the ongoing programs in the area of gene therapy, the primary indications for each product and the current status of development. “Pre-clinical data” means the program is at the stage where results from animal studies have been obtained. “Clinical Trials” means that human data is available.

Programs	Development Status	Partnership or Collaboration (ongoing)
In vivo Gene Transfer to Muscle (a) DNA vaccines	Pre-clinical data	Chiron, Vical, U.S. Navy, Undisclosed partner
(b) Hormones, cytokines	Pre-clinical data	Valentis, U.S. Navy
In vivo Gene Transfer to Skin — hormones, regulatory proteins	Pre-clinical data	U.S. Navy; University of Pennsylvania
In vivo Gene Transfer to *Blood* Vessels — marker genes; undisclosed gene	Pre-clinical data	Boehringer Ingleheim Pharma KG, Germany.

We intend to proceed with the joint projects that we are currently working on with our partners as set out above. We also intend to expand ongoing collaborations and forge new alliances and research collaborations with the goal of having these relationships mature into licensing agreements.

In addition, we plan to complete pre-clinical research for other DNA delivery projects that we intend to carry out ourselves. We intend to continue with these projects through clinical trials and development into products, provided that milestones of safety, efficacy, and commercial viability are successfully reached along the path of development. Projects presently under evaluation are focused on developing therapeutic vaccines for infectious diseases. Other research and development activities will target improvements in DNA delivery, both *in vivo* and *ex vivo* , and the strengthening of our intellectual property position in the fields of DNA delivery, gene therapy, and DNA vaccines.

COMPETITION

The main competitive technologies in the area of DNA delivery are the following:

- viral DNA delivery;
- lipid DNA delivery;
- biolistic (“gene gun”) delivery of DNA; and
- the injection of “naked” DNA.

To our knowledge, we are presently the only company that has publicly announced that it has the capability to manufacture electroporation equipment under Good Manufacturing Practices (GMP). Our competitors include several companies that either have rights to intellectual property related to electroporation devices, to electroporation methods, or to applications of electroporation. These competitors include Aventis Pharmaceuticals; Ichor Medical Systems Inc.; Inovio AS; Cytopulse Science Inc., and others.

MEDPULSER® SYSTEM

OVERVIEW

The MedPulser® System is designed for the clinical application of EPT. In the field of oncology, the MedPulser® System is used to treat tumors by the local application of a controlled electric field to targeted tumor tissues that have been previously injected with a chemotherapeutic agent, typically bleomycin. The controlled short duration electric field pulses temporarily increase the cellular membrane permeability within the tumor, thus allowing the chemotherapeutic agent to more easily enter the tumor cells and kill them.

The system has two components: (1) a pulse generator that creates the electric field; and (2) a sterile, disposable electrode applicator for single patient use. The electrodes may be needles, plates, or other configurations, depending on the geometry of the tumor and its location.

The pulse generator is designed for ease of use, such that minimal user input is needed to apply the therapy. Based on the size and anatomical location of the tumor to be treated, a physician selects the most appropriate electrode applicator. The applicator is then connected to the pulse generator of the MedPulser® System, and sends configuration information on therapy parameters (voltage, etc.) for that particular applicator size and shape. Currently, several different electrode applicator configurations are available. The applicators vary in needle length, needle gauge, electrode needle spacing, tip angle and handle configuration so as to allow the physician to access a wide range of tumors.

New models of electrode applicators will be considered in the future to address customer needs. The system is designed such that the installed base of the MedPulser® System instruments allows for a wide variety of new electrode applicator configurations. Also, the system incorporates other features to minimize the possibility of applicator reuse as well as prevent the use of competitive applicators with the MedPulser® System instrument. The commercial version of the MedPulser® System has been certified by an independent test laboratory as meeting strict international product standards.

In the United States, the MedPulser® System and bleomycin are currently regulated as a combination drug-device system. As a result, we will be required to obtain both drug labeling and device approvals from the FDA. For drug labeling approvals, we have filed an IND and have successfully completed Phase I and II clinical trials. We are currently engaged in Phase III clinical trials and after successful completion we intend to submit a United States New Drug Application (NDA). We may also submit a device Pre-Market Approval or 510(k) for FDA approval as a device. We are unable, due to the complexities of completing Phases I, II, and III clinical trials, to estimate the length of time or cost involved in obtaining approvals from the FDA.

In most of the rest of the world, we anticipate that the MedPulser® System will be regulated as a device. In the European Union, the MedPulser® System comes under Medical Device Directive 93/42/EEC (“MDD”) which means that prior to marketing the MedPulser® System, we are required to obtain a CE Mark certification of conformity to the quality system, production and clinical investigation essential requirements of the directive. We have obtained CE Mark certification for the MedPulser® System, which allows us to market it in the European community. In many of the EU countries, the drug bleomycin is approved for intra-tumoral, inter-lersional, local, intramuscular or subcutaneous administration. While the administration of generic drugs outside the label indication may be at the discretion of the physician and hospital pharmacist, we cannot predict with absolute certainty whether additional regulatory approvals for the combined use of the drug with our system may be required in certain countries. The costs associated with such a filing cannot be reasonably determined at this time due to the vagaries of the approval process.

MEDICAL DEVICE MANUFACTURING

We must comply with a variety of manufacturing regulations in order to be able to sell products around the world. In Europe, we must comply with MDD. We have demonstrated that we have a quality system in place by securing ISO 9001 approval. We have also demonstrated compliance with international medical device standards with EN 46001 and ISO 13485 recognition. We received all of these certifications in January 1999. In March 1999 we obtained the CE Mark, qualifying the MedPulser® System for sale in the European Union. To sell in the United States, we will also need to be in compliance with FDA current GMPs.

We employ modern manufacturing practices, which include outsourcing of significant sub-assemblies used in the manufacture of the MedPulser® System. The final assembly of the pulse generator, testing, and quality control functions are performed in a physically distinct area of our facilities in which the appropriate controls are employed. We outsource the manufacture of the disposable electrode applicators to a GMP/ISO9002 compliant contract manufacturer.

BTX INSTRUMENT DIVISION

We were originally founded as Biotechnologies and Experimental Research, Inc. (BTX) in San Diego, California in 1983. We established a reputation and leadership position in the field of electroporation by developing a product line of instruments for scientific research. BTX sold its first product in 1985. In the early 1990s, we extended our focus to include human therapeutics.

In January 2003, we closed the sale of the non-cash assets of the BTX division to Harvard Bioscience, Inc. The terms of the sale were $3.7 million in cash, subject to possible adjustments, and a royalty on net sales of certain BTX products above certain sales targets. This transaction allowed our company to focus on our electroporation-based therapies for humans.

REVENUE AND INTEREST INCOME

The following table provides the amount of interest income, and revenue obtained from research and development agreements generated by us for the past three fiscal years. The following table sets forth our selected consolidated financial data for the periods indicated, derived from consolidated financial statements prepared in accordance with accounting principles generally accepted in the United States which conform to accounting principles generally accepted in Canada, except as described in Note 19 to our consolidated financial statements.

Period Ended:	December 31, 2003 12 months	December 31, 2002 12 months	December 31, 2001 9 months (1)
REVENUES UNDER COLLABORATIVE RESEARCH AND DEVELOPMENT ARRANGEMENTS			
Germany	$ —	$ 173,638	$ 97,029
United States	$ 74,647	$ 10,000	$ 12,640
INTEREST INCOME			
United States	$ 65,497	$ 32,316	$ 98,865
Canada		—	—
LICENSE AND DEVELOPMENT AGREEMENTS			
Other	$ 5,882	$ 5,883	$ 981

(1) On June 15, 2001, we changed our fiscal year end from March 31 to December 31.

We, like many biomedical companies, devote a substantial portion of our annual budget to research and development. For the nine months ended December 31, 2001, research and development expenses totaled $2.1 million and for the year ended December 31, 2002, the expenses totaled $2.5 million. For the year ended December 31, 2003, the expenses totaled $2.1 million. These amounts far exceed revenues from research arrangements and contribute substantially to our losses.

INTELLECTUAL PROPERTY

As of March 12, 2004, the United States Patent Office has issued to us 51 patents with 4 additional patents allowed and awaiting issuance. We have also been granted patents in individual countries including European Patents that have been validated in numerous EP countries such that we now have 106 issued foreign patents in those foreign jurisdictions. Additionally, there are 10 foreign patents that have been allowed and awaiting grant and/or validation. Regarding pending applications, we have 21 pending patent applications in the United States, and an additional 62 pending applications in foreign jurisdictions.

We have registered on the Principal Register of the United States Patent and Trademark Office the following trademarks: ELECTRONIC GENETICS, MANIPULATOR, OPTIMIZOR, GENEPADDLES, GENETRODES, HUMAN IN SQUARE (Design), ENHANCER, and MEDPULSER. We have registered the MEDPULSER trademark in Canada. We have a European Community Trade Mark registration for GENETRONICS and for MEDPULSER. We have registered the MEDPULSER mark in Japan. We have registered the GENETRONICS mark in the United Kingdom. We are not aware of any claims of infringement or other challenges to our right to use our marks.

EMPLOYEES

As of March 12, 2004 we employed 20 people on a full-time basis and 9 people under consulting and project employment agreements. Of the combined total, 9 were in product research, which includes research and development, quality assurance, and clinical, 5 in engineering, 2 in manufacturing, and 13 in general and administrative, which includes, corporate development, information technology, legal, investor relations, finance, and corporate administration. None of our employees is subject to collective bargaining agreements. In February 2003, following the sale of our BTX division to Harvard Biosciences, Inc., we reduced our workforce by 20 employees. The estimated cost to us for the reduction in force was approximately $180,000.

RISK FACTORS

WE HAVE OPERATED AT A LOSS AND WE EXPECT TO CONTINUE TO ACCUMULATE A DEFICIT.

As of December 31, 2003, we had a deficit of $76,201,984. We have operated at a loss since 1994, and we expect this to continue for some time. The amount of our accumulated deficit will continue to grow, as it will be expensive to continue our clinical, research, and development efforts as well as our product launch in Europe. If these activities are successful, and if we receive approval from the FDA to market human-use equipment, then even more funding will be required to market and sell the equipment in the U.S.

The cash we received during the fiscal year beginning January 1, 2003, came from the sale of our BTX Division, exercise of employee stock options and investor warrants, and the sale of preferred stock. Other funds came from collaborative research arrangements and interest income on our investments. On July 16, 2003, we announced that we had raised an aggregate of $15,670,000, through the sale of $8,170,000 of our Series A Cumulative Convertible Preferred Stock and $7,500,000 of our Series B Cumulative Convertible Preferred Stock, to institutional and accredited investors. All proceeds from the sale of Series A Cumulative Convertible Preferred Stock were received on July 16, 2003. The proceeds from the sale of the Series B Preferred Stock remained in escrow to be released to us upon the achievement of specific milestones. In October 2003, we achieved these milestones and the $7,500,000 was released to us. Including the cash proceeds received from the July 2003 financing, the exercise of employee stock options and investor warrants, and the sale of the BTX Division, we believe we have sufficient funds to fund operations through April 2005.

WE WILL HAVE A NEED FOR SIGNIFICANT FUNDS IN THE FUTURE AND THERE IS NO GUARANTEE THAT WE WILL BE ABLE TO OBTAIN THE FUNDS WE NEED.

As discussed, we have operated at a loss, and expect that to continue for some time in the future. Our plans for continuing clinical trials, conducting research, furthering development and, eventually, marketing our human-use equipment will involve substantial costs. The extent of these costs will depend on many factors, including some of the following:

- The progress and breadth of preclinical testing and the size of our drug delivery programs, all of which directly influence cost;
- The costs involved in complying with the regulatory process to get our human-use products approved, including the number, size, and timing of necessary clinical trials and costs associated with the current assembly and review of existing clinical and pre-clinical information;

- The costs involved in patenting our technologies and defending them;
- Changes in our existing research and development relationships and our ability to enter into new agreements;
- The cost of manufacturing our human-use equipment; and
- Competition for our products and our ability, and that of our partners, to commercialize our products.

We plan to fund operations by several means. We will attempt to enter into contracts with partners that will fund either general operating expenses or specific programs or projects. Some funding also may be received through government grants. We cannot promise that we will enter into any such contracts or receive such grants or, if we do, that our partners and the grants will provide enough funding to meet our needs.

In the past, we have raised funds by public and private sale of our stock, and we are likely to do this in the future to raise needed funds. Sale of our stock to new private or public investors usually results in existing stockholders becoming "diluted". The greater the number of shares sold, the greater the dilution. A high degree of dilution can make it difficult for the price of our stock to rise rapidly, among other things. Dilution also lessens a stockholder's voting power.

We cannot assure you that we will be able to raise capital needed to fund operations, or that we will be able to raise capital under terms that are favorable to us.

IF WE DO NOT HAVE ENOUGH CAPITAL TO FUND OPERATIONS, THEN WE WILL HAVE TO CUT COSTS.

If we are not able to raise needed money under acceptable terms, then we will have to take measures to cut costs, such as:

- Delay, scale back or discontinue one or more of our drug or gene delivery programs or other aspects of operations, including laying off some personnel or stopping or delaying clinical trials;
- Sell or license some of our technologies that we would not otherwise give up if we were in a better financial position;
- Sell or license some of our technologies under terms that are a lot less favorable than they otherwise might have been if we were in a better financial position; and
- Consider merging with another company or positioning ourself to be acquired by another company.

If it became necessary to take one or more of the above-listed actions, then we may have a lower valuation, which probably would be reflected in our stock price.

IF WE ARE NOT SUCCESSFUL DEVELOPING OUR CURRENT PRODUCTS, OUR BUSINESS MODEL MAY CHANGE AS OUR PRIORITIES AND OPPORTUNITIES CHANGE. OUR BUSINESS MAY NEVER DEVELOP TO BE PROFITABLE OR SUSTAINABLE.

There are many products and programs that to us seem promising and that we could pursue. However, with limited resources, we may decide to change priorities and shift programs away from those that we had been pursuing for the purpose of exploiting our core technology of electroporation. The choices we may make will be dependent upon numerous factors, which we cannot predict. We cannot assure you that our business model, as it currently exists or as it may evolve, will enable us to become profitable or to sustain operations.

IF WE DO NOT SUCCESSFULLY COMMERCIALIZE PRODUCTS, THEN OUR BUSINESS WILL SUFFER.

We have received various regulatory approvals, which apply to Europe for our equipment for use in treating solid tumors, the products related to such regulatory approval have not yet been commercialized. In addition, we have not yet received any regulatory approvals to sell our clinical products in the United States and further clinical trials are still necessary before we can seek regulatory approval to sell our products in the United States for treating solid tumors. We cannot assure you that we will successfully develop any products. If we fail to develop or successfully commercialize any products, then our business will suffer. Additionally, much of the commercialization efforts for our products must be carried forward by a licensing partner. We may not be able to obtain such a partner.

PRE-CLINICAL AND CLINICAL TRIALS OF HUMAN-USE EQUIPMENT ARE UNPREDICTABLE. IF WE EXPERIENCE UNSUCCESSFUL TRIAL RESULTS OUR BUSINESS WILL SUFFER.

Before any of our human-use equipment can be sold, the Food and Drug Administration (FDA) or applicable foreign regulatory authorities must determine that the equipment meets specified criteria for use in the indications for which approval is requested. The FDA will make this determination based on the results from our pre-clinical testing and clinical trials.

Clinical trials are unpredictable, especially human-use trials. Results achieved in early stage clinical trials may not be repeated in later stage trials, or in trials with more patients. When early positive results were not repeated in later stage trials, pharmaceutical and biotechnology companies have suffered significant setbacks. Not only are commercialization timelines pushed back, but some companies, particularly smaller biotechnology companies with limited cash reserves, have gone out of business after releasing news of unsuccessful clinical trial results.

If we experience unexpected, inconsistent or disappointing results in connection with a clinical or pre-clinical trial our business will suffer. If any of the following events arise during our clinical trials or data review, then we would expect this to have a serious negative effect on our company and your investment:

- The electroporation-mediated delivery of drugs or other agents may be found to be ineffective or to cause harmful side effects, including death;

- Our clinical trials may take longer than anticipated, for any of a number of reasons including a scarcity of subjects that meet the physiological or pathological criteria for entry into the study, a scarcity of subjects that are willing to participate through the end of the trial, or data and document review;

- The reported clinical data may change over time as a result of the continuing evaluation of patients or the current assembly and review of existing clinical and pre-clinical information;

- Data from various sites participating in the clinical trials may be incomplete or unreliable, which could result in the need to repeat the trial or abandon the project; and

- The FDA and other regulatory authorities may interpret our data differently than we do, which may delay or deny approval.

Clinical trials are generally quite expensive. A delay in our trials, for whatever reason, will probably require us to spend additional funds to keep the product(s) moving through the regulatory process. If we do not have or cannot raise the needed funds, then the testing of our human-use products could be shelved. In the event the clinical trials are not successful, we will have to determine whether to put more money into the program to address its deficiencies or whether to abandon the clinical development programs for the products in the tested indications. Loss of the human-use product line would be a significant setback for our company.

Because there are so many variables inherent in clinical trials, we cannot predict whether any of our future regulatory applications to conduct clinical trials will be approved by the FDA or other regulatory authorities,

whether our clinical trials will commence or proceed as planned, and whether the trials will ultimately be deemed to be successful. To date, our experience has been that submission and approval of clinical protocols has taken longer than desired or expected.

OUR BUSINESS IS HIGHLY DEPENDENT ON RECEIVING APPROVALS FROM VARIOUS UNITED STATES AND INTERNATIONAL GOVERNMENT AGENCIES AND WILL BE DRAMATICALLY AFFECTED IF APPROVAL TO MANUFACTURE AND SELL OUR HUMAN-USE EQUIPMENT IS NOT GRANTED OR IS NOT GRANTED IN A TIMELY MANNER.

The production and marketing of our human-use equipment and the ongoing research, development, preclinical testing, and clinical trial activities are subject to extensive regulation. Numerous governmental agencies in the US and internationally, including the FDA, must review our applications and decide whether to grant approval. All of our human-use equipment must go through an approval process, in some instances for each indication for which we want to label it for use (such as use for dermatology, use for transfer of a certain gene to a certain tissue, or use for administering a certain drug to a certain tumor type in a patient having certain characteristics). These regulatory processes are extensive and involve substantial costs and time.

We have limited experience in, and limited resources available for, regulatory activities. Failure to comply with applicable regulations can, among other things, result in non-approval, suspensions of regulatory approvals, fines, product seizures and recalls, operating restrictions, injunctions and criminal prosecution.

Any of the following events can occur and, if any did occur, any one could have a material adverse effect on our business, financial conditions and results of operations:

- As mentioned earlier, clinical trials may not yield sufficiently conclusive results for regulatory agencies to approve the use of our products;

- There can be delays, sometimes long, in obtaining approval for our human-use devices, and indeed, we have experienced such delays in obtaining FDA approval of our clinical protocols;

- The rules and regulations governing human-use equipment such as ours can change during the review process, which can result in the need to spend time and money for further testing or review;

- If approval for commercialization is granted, it is possible the authorized use will be more limited than we believe is necessary for commercial success, or that approval may be conditioned on completion of further clinical trials or other activities; and

- Once granted, approval can be withdrawn, or limited, if previously unknown problems arise with our human-use product or data arising from its use.

WE RELY ON COLLABORATIVE AND LICENSING RELATIONSHIPS TO FUND A PORTION OF OUR RESEARCH AND DEVELOPMENT EXPENSES. IF WE ARE UNABLE TO MAINTAIN OR EXPAND EXISTING RELATIONSHIPS, OR INITIATE NEW RELATIONSHIPS, WE WILL HAVE TO DEFER OR CURTAIL RESEARCH AND DEVELOPMENT ACTIVITIES IN ONE OR MORE AREAS.

Our partners and collaborators fund a portion of our research and development expenses and assist us in the research and development of our human-use equipment. These collaborations and partnerships can help pay the salaries and other overhead expenses related to research. Our largest partner at this time is Valentis, Inc. In November 2001, we entered into a non-exclusive license and supply agreement with Valentis, whereby Valentis obtained rights to use our electroporation technology in the development of certain GeneMedicine products. We received an upfront cash payment of $100,000 from Valentis in the first quarter of 2002 and fourth quarter of 2002, and we may receive additional revenues from this partnership depending on various regulatory approvals and other events outside of our control. In the past, we encountered operational difficulties after the termination of a similar agreement by a former partner. Because this partnership was terminated, we did not receive significant milestone payments which we had expected and were forced to delay some clinical trials as well as some product

development. The Valentis partnership is not of the same size and scope and termination of the Valentis partnership would not present operational difficulties.

Our clinical trials to date have used our equipment with the anti-cancer drug bleomycin. We do not currently intend to package bleomycin together with the equipment for sale, but if it should be necessary or desirable to do this, we would need a reliable source of the drug. We signed a supply agreement with Abbott Laboratories under which Abbott would sell us bleomycin for inclusion in our package. If it becomes necessary or desirable to include bleomycin in our package, and this relationship with Abbott should be terminated, then we would have to form a relationship with another provider of this generic drug before any product could be launched.

We also rely on scientific collaborators at companies and universities to further our research and test our equipment. In most cases, we lend our equipment to a collaborator, teach him or her how to use it, and together design experiments to test the equipment in one of the collaborator's fields of expertise. We aim to secure agreements that restrict collaborators' rights to use the equipment outside of the agreed upon research, and outline the rights each of us will have in any results or inventions arising from the work.

Nevertheless, there is always risk that:

- Our equipment will be used in ways we did not authorize, which can lead to liability and unwanted competition;
- We may determine that our technology has been improperly assigned to us or a collaborator may claim rights to certain of our technology, which may require us to pay license fees or milestone payments and, if commercial sales of the underlying product is achieved, royalties;
- We may lose rights to inventions made by our collaborators in the field of our business, which can lead to expensive legal fights and unwanted competition;
- Our collaborators may not keep our confidential information to themselves, which can lead to loss of our right to seek patent protection and loss of trade secrets, and expensive legal fights; and
- Collaborative associations can damage a company's reputation if they go awry and thus, by association or otherwise, the scientific or medical community may develop a negative view of us.

We cannot guarantee that any of the results from these collaborations will be fruitful. We also cannot tell you that we will be able to continue to collaborate with individuals and institutions that will further our work, or that we will be able to do so under terms that are not too restrictive. If we are not able to maintain or develop new collaborative relationships, then it is likely the research pace will slow down and it will take longer to identify and commercialize new products, or new indications for our existing products.

WE COULD BE SUBSTANTIALLY DAMAGED IF PHYSICIANS AND HOSPITALS PERFORMING OUR CLINICAL TRIALS DO NOT ADHERE TO PROTOCOLS OR PROMISES MADE IN CLINICAL TRIAL AGREEMENTS.

We work and have worked with a number of hospitals to perform clinical trials, primarily in oncology. We depend on these hospitals to recruit patients for the trials, to perform the trials according to our protocols, and to report the results in a thorough, accurate and consistent fashion. Although we have agreements with these hospitals, which govern what each party is to do with respect to the protocol, patient safety, and avoidance of conflict of interest, there are risks that the terms of the contracts will not be followed, such as;

Risk of Deviations from Protocol. The hospitals or the physicians working at the hospitals may not perform the trial correctly. Deviations from protocol may make the clinical data not useful and the trial could be essentially worthless.

Risk of Improper Conflict of Interest. Physicians working on protocols may have an improper economic interest in our company, or other conflict of interest. When a physician has a personal stake in the success of the trial, such as can be inferred if the physician owns stock, or rights to purchase stock, of the trial sponsor, it can create suspicion that the trial results were improperly influenced by the physician's interest in economic gain. Not only can this put the clinical trial results at risk, but it can also do serious damage to a company's reputation.

Risks Involving Patient Safety and Consent. Physicians and hospitals may fail to secure formal written consent as instructed or report adverse effects that arise during the trial in the proper manner, which could put patients at unnecessary risk. This increases our liability, affects the data, and can damage our reputation.

If any of these events were to occur, then it could have a material adverse effect on our ability to receive regulatory authorization to sell our human-use equipment, not to mention on our reputation. Negative events that arise in the performance of clinical trials sponsored by biotechnology companies of our size and with limited cash reserves similar to ours have resulted in companies going out of business. While these risks are ever present, to date our contracted physicians and clinics have been successful in collecting significant data regarding the clinical protocols under which they have operated, and we are unaware of any conflicts of interest or improprieties regarding our protocols.

WE RELY HEAVILY ON OUR PATENTS AND PROPRIETARY RIGHTS TO ATTRACT PARTNERSHIPS AND MAINTAIN MARKET POSITION.

Another factor that will influence our success is the strength of our patent portfolio. Patents give the patent holder the right to prevent others from using its patented technology. If someone infringes upon the patented material of a patent holder, then the patent holder has the right to initiate legal proceedings against that person to protect the patented material. These proceedings, however, can be lengthy and costly. We are in the process of performing an ongoing review of our patent portfolio to confirm that our key technologies are adequately protected. If we determine that any of our patents require either additional disclosures or revisions to existing information, we may ask that such patents be reexamined or reissued, as applicable, by the United States patent office.

The patenting process, enforcement of issued patents, and defense against claims of infringement are inherently risky. Because we rely heavily on patent protection, for us the risks are significant and include the following:

Risk of Inadequate Patent Protection for Product. The United States or foreign patent offices may not grant patents of meaningful scope based on the applications we have already filed and those we intend to file. If we do not have patents that adequately protect our human-use equipment and indications for its use, then we will not be competitive.

Risk That Important Patents Will Be Judged Invalid. Some of the issued patents we now own or license may be determined to be invalid. If we have to defend the validity of any of our patents, the costs of such defense could be substantial, and there is no guarantee of a successful outcome. In the event an important patent related to our drug delivery technology is found to be invalid, we may lose competitive position and may not be able to receive royalties for products covered in part or whole by that patent under license agreements.

Risk of Being Charged With Infringement. Although we and our partners try to avoid infringement, there is the risk that we will use a patented technology owned by another person and/or be charged with infringement. Defending or indemnifying a third party against a charge of infringement can involve lengthy and costly legal actions, and there can be no guarantee of a successful outcome. Biotechnology companies of roughly our size and financial position have gone out of business after fighting and losing an infringement battle. If we or our partners were prevented from using or selling our human-use equipment, then our business would be seriously affected.

Freedom to Operate Risks. We are aware that patents related to electrically assisted drug delivery have been granted to, and patent applications filed by, our potential competitors. We or our partners have taken licenses to some of these patents, and will consider taking additional licenses in the future. Nevertheless, the competitive nature of our field of business and the fact that others have sought patent protection for technologies similar to ours make these significant risks.

In addition to patents, we also rely on trade secrets and proprietary know-how. We try to protect this information with appropriate confidentiality and inventions agreements with our employees, scientific advisors, consultants, and collaborators. We cannot assure you that these agreements will not be breached, that we will be able to do much to protect ourselves if they are breached, or that our trade secrets will not otherwise become known or be independently discovered by competitors. If any of these events occurs, then we run the risk of losing control over valuable company information, which could negatively affect our competitive position.

WE RUN THE RISK THAT OUR TECHNOLOGY WILL BECOME OBSOLETE OR LOSE ITS COMPETITIVE ADVANTAGE.

The drug delivery business is very competitive, fast moving and intense, and expected to be increasingly so in the future. Other companies and research institutions are developing drug delivery systems that, if not similar in type to our systems, are designed to address the same patient or subject population. Therefore, we cannot promise you that our products will be the best, the safest, the first to market, or the most economical to make or use. If competitors' products are better than ours, for whatever reason, then we could make less money from sales and our products risk becoming obsolete.

There are many reasons why a competitor might be more successful than us, including:

Financial Resources. Some competitors have greater financial resources and can afford more technical and development setbacks than we can.

Greater Experience. Some competitors have been in the drug delivery business longer than we have. They have greater experience than us in critical areas like clinical testing, obtaining regulatory approval, and sales and marketing. This experience or their name recognition may give them a competitive advantage over us.

Superior Patent Position. Some competitors may have a better patent position protecting their technology than we have or will have to protect our technology. If we cannot use our patents to prevent others from copying our technology or developing similar technology, or if we cannot obtain a critical license to another's patent that we need to make and use our equipment, then we would expect our competitive position to lessen. However, we feel that our patent position adequately protects our technology portfolio.

Faster to Market. Some companies with competitive technologies may move through stages of development, approval, and marketing faster than us. If a competitor receives FDA approval before us, then it will be authorized to sell its products before we can sell ours. Because the first company "to market" often has a significant advantage over late-comers, a second place position could result in less than anticipated sales.

Reimbursement Allowed. In the United States, third party payers, such as Medicare, may reimburse physicians and hospitals for competitors' products but not for our human-use products. This would significantly affect our ability to sell our human-use products in the United States and would have a serious effect on revenues and our business as a whole. Outside of the United States, reimbursement and funding policies vary widely.

OUR ABILITY TO ACHIEVE SIGNIFICANT REVENUE FROM SALES OR LEASES OF HUMAN-USE EQUIPMENT WILL DEPEND ON ESTABLISHING EFFECTIVE SALES, MARKETING AND DISTRIBUTION CAPABILITIES OR RELATIONSHIPS AND WE LACK SUBSTANTIAL EXPERIENCE IN THESE AREAS.

We have no experience in sales, marketing and distribution of clinical and human-use products. If we want to be direct distributors of the human-use products, then we must develop a marketing and sales force. This would involve substantial costs, training, and time. Alternatively, we may decide to rely on a company with a large distribution system and a large direct sales force to undertake the majority of these activities on our behalf. This route could result in less profit for us, but may permit us to reach market faster. In any event, we may not be able to undertake this effort on our own, or contract with another to do this at a reasonable cost. Regardless of the route we take, we may not be able to successfully commercialize any product.

THE MARKET FOR OUR STOCK IS VOLATILE, WHICH COULD ADVERSELY AFFECT AN INVESTMENT IN OUR STOCK.

Our share price and volume are highly volatile. This is not unusual for biomedical companies of our size, age, and with a discrete market niche. It also is common for the trading volume and price of biotechnology stocks to be unrelated to a company's operations, i.e. to go up or down on positive news and to go up or down on no news. Our stock has exhibited this type of behavior in the past, and may well exhibit it in the future. The historically low trading volume of our stock, in relation to many other biomedical companies of about our size, makes it more likely that a severe fluctuation in volume, either up or down, will affect the stock price.

Some factors that we would expect to depress the price of our stock include:

- Adverse clinical trial results;
- Our inability to obtain additional capital;
- Announcement that the FDA denied our request to approve our human-use product for commercialization in the United States, or similar denial by other regulatory bodies which make independent decisions outside the United States. To date, Europe is the only foreign jurisdiction in which we have sought approval for commercialization;
- Announcement of legal actions brought by or filed against us for patent or other matters, especially if we do not win such actions;
- Cancellation of important corporate partnerships or agreements;
- Public concern as to the safety or efficacy of our human-use products including public perceptions regarding gene therapy in general;
- Stockholders' decisions, for whatever reasons, to sell large amounts of our stock;
- Adverse research and development results;
- Declining working capital to fund operations, or other signs of apparent financial uncertainty; and
- Significant advances made by competitors that are perceived to limit our market position.

ECONOMIC, POLITICAL, MILITARY OR OTHER EVENTS IN THE UNITED STATES OR IN OTHER COUNTRIES COULD INTERFERE WITH OUR SUCCESS OR OPERATIONS AND HARM OUR BUSINESS

The September 11, 2001 terrorist attacks disrupted commerce throughout the United States and other parts of the world. The continued threat of similar attacks throughout the world and the military action taken by the United States and other nations in Iraq or other countries may cause significant disruption to commerce throughout the world. To the extent that such disruptions further slow the global economy, our business and results of operations could be materially adversely affected. We are unable to predict whether the threat of new attacks or the responses thereto will result in any long-term commercial disruptions or if such activities or responses will have a long-term material adverse effect on our business, results of operations or financial condition.

OUR DEPENDENCE UPON NON-MARKETED PRODUCTS, LACK OF EXPERIENCE IN MANUFACTURING AND MARKETING HUMAN-USE PRODUCTS, AND OUR CONTINUING DEFICIT MAY RESULT IN EVEN FURTHER FLUCTUATIONS IN OUR TRADING VOLUME AND SHARE PRICE.

Successful approval, marketing, and sales of our human-use equipment are critical to the financial future of our company. Our human-use products are not yet approved for sale in the United States and some other

jurisdictions and we may never obtain those approvals. Even if we do obtain approvals to sell our human-use products in the United States, those sales may not be as large or timely as we expect. These uncertainties may cause our operating results to fluctuate dramatically in the next several years. We believe that quarter-to-quarter or annual comparisons of our operating results are not a good indication of our future performance. Nevertheless, these fluctuations may cause us to perform below the expectations of the public market analysts and investors. If this happens, the price of our common shares would likely fall.

THERE IS A RISK OF PRODUCT LIABILITY WITH HUMAN-USE EQUIPMENT

The testing, marketing and sale of human-use products expose us to significant and unpredictable risks of equipment product liability claims. These claims may arise from patients, clinical trial volunteers, consumers, physicians, hospitals, companies, institutions, researchers or others using, selling, or buying our equipment. Product liability risks are inherent in our business and will exist even after the products are approved for sale. If and when our human-use equipment is commercialized, we run the risk that use (or misuse) of the equipment will result in personal injury. The chance of such an occurrence will increase after a product type is on the market.

We possess liability insurance in connection with ongoing business and products, and we will purchase additional policies if such policies are determined by management to be necessary. The insurance we purchase may not provide adequate coverage in the event a claim is made, however, and we may be required to pay claims directly. If we did have to make payment against a claim, then it would impact our financial ability to perform the research, development, and sales activities we have planned.

If and when our human-use equipment is commercialized, there is always the risk of product defects. Product defects can lead to loss of future sales, decrease in market acceptance, damage to our brand or reputation, and product returns and warranty costs. These events can occur whether the defect resides in a component we purchased from a third party or whether it was due to our design and/or manufacture. We expect that our sales agreements will contain provisions designed to limit our exposure to product liability claims. However, we do not know whether these limitations are enforceable in the countries in which the sale is made. Any product liability or other claim brought against us, if successful and of sufficient magnitude, could negatively impact our financial performance, even if we have insurance.

WE CANNOT BE CERTAIN THAT WE WILL BE ABLE TO MANUFACTURE OUR HUMAN-USE EQUIPMENT IN SUFFICIENT VOLUMES AT COMMERCIALLY REASONABLE RATES.

Our manufacturing facilities for human-use products will be subject to quality systems regulations, international quality standards and other regulatory requirements, including pre-approval inspection for the human-use equipment and periodic post-approval inspections for all human-use products. While we have undergone and passed a quality systems review from an international body, we have never undergone a quality systems inspection by the FDA. We may not be able to pass an FDA inspection when it occurs. If our facilities are not up to the FDA standards in sufficient time, prior to United States launch of product, then it will result in a delay or termination of our ability to produce the human-use equipment in our facility. Any delay in production will have a negative effect on our business. There are no immediate dates set forth for launch of our products in the United States. We plan on launching these products once we successfully perform a Phase III clinical study, obtain the requisite regulatory approval, and engage a partner who has the financial resources and marketing capacity to bring our products to market.

Our products must be manufactured in sufficient commercial quantities, in compliance with regulatory requirements, and at an acceptable cost to be attractive to purchasers. We rely on third parties to manufacture and assemble most aspects of our equipment.

Disruption of the manufacture of our products, for whatever reason, could delay or interrupt our ability to manufacture or deliver our products to customers on a timely basis. This would be expected to affect revenues and may affect our long-term reputation, as well. In the event we provide product of inferior quality, we run the risk of product liability claims and warranty obligations, which will negatively affect our financial performance.

WE DEPEND ON THE CONTINUED EMPLOYMENT OF QUALIFIED PERSONNEL.

Our success is highly dependent on the people who work for us. If we cannot attract and retain top talent to work in our company, then our business will suffer. Our staff may not decide to stay with our company, and we may not be able to replace departing employees or build departments with qualified individuals.

We have an employment agreement in place for Avtar Dhillon, our President and Chief Executive Officer. If Mr. Dhillon leaves us, that might pose significant risks to our continued development and progress. Our progress may also be curtailed if Dietmar Rabussay, Ph.D., our Vice President of Research and Development, were to leave us.

WE MAY NOT MEET ENVIRONMENTAL GUIDELINES AND AS A RESULT COULD BE SUBJECT TO CIVIL AND CRIMINAL PENALTIES.

Like all companies in our line of work, we are subject to a variety of governmental regulations relating to the use, storage, discharge and disposal of hazardous substances. Our safety procedures for handling, storage and disposal of such materials are designed to comply with applicable laws and regulations. Nevertheless, if we are found to not comply with environmental regulations, or if we are involved with contamination or injury from these materials, then we may be subject to civil and criminal penalties. This would have a negative impact on our reputation, our finances, and could result in a slowdown, or even complete cessation of our business.

OUR ACTUAL RESULTS COULD DIFFER MATERIALLY FROM THOSE ANTICIPATED IN OUR FORWARD-LOOKING STATEMENTS.

Any statements in this Form 10-K about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and are forward-looking statements. These statements are often, but not always, made through the use of words or phrases such as “believe,” “anticipate,” “should,” “intend,” “plan,” “will,” “expects,” “estimates,” “projects,” “positioned,” “strategy,” “outlook” and similar expressions. Accordingly, these statements involve estimates, assumptions and uncertainties which could cause actual results to differ materially from the results expressed in the statements. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this Form 10-K. The following cautionary statements identify important factors that could cause our actual results to differ materially from those projected in the forward-looking statements made in this Form 10-K. Among the key factors that have a direct impact on our results of operations are:

- the risks and other factors described under the caption “—Risk Factors” in this report;
- general economic and business conditions;
- industry trends;
- our assumptions about customer acceptance, overall market penetration and competition from providers of alternative products and services;
- our actual funding requirements; and
- availability, terms and deployment of capital.

Because the risk factors referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us, you should not place undue reliance on any such forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

ITEM 2 . PROPERTIES

We own no real property and have no plans to acquire any real property in the future. We currently lease a facility of 17,537 square feet at our headquarters in San Diego, California, and the current annual rent for the leased property is $321,979. This facility provides adequate space for our current research, manufacturing, and administrative operations. The current lease runs through December 31, 2004. Currently, we are evaluating other facilities to meet our future operating requirement.

ITEM 3. LEGAL PROCEEDINGS

We are not a party to any material legal proceedings with respect to us, our subsidiaries, or any of our properties.

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

None.

PART II

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

Market Information

The principal trading market for the common shares of Genetronics Biomedical Corporation during 2003 was the American Stock Exchange (AMEX). Trading began on the AMEX on December 8, 1998. On January 17, 2003, we voluntarily de-listed from the Toronto Stock Exchange (TSE) where our common stock had been listed since September 2, 1997. The decision was made to decrease the time required and costs of dual regulatory filings, to concentrate all of the volume on one exchange and to focus on building a higher profile with our expanding domestic investor base. Our common shares have also traded on the former Vancouver Stock Exchange (VSE). We voluntarily de-listed from that exchange on March 6, 1998. The table below sets forth the quarterly high and low sales prices of our common shares in the two most recent fiscal years.

	Toronto Stock Exchange CDN$		American Stock Exchange US$	
Year ended December 31, 2003	**HIGH**	**LOW**	**HIGH**	**LOW**
First quarter (1)	0.55	0.40	0.44	0.26
Second quarter	—	—	0.93	0.24
Third quarter	—	—	1.14	0.59
Fourth quarter	—	—	1.38	0.95
Year ended December 31, 2002	**HIGH**	**LOW**	**HIGH**	**LOW**
First quarter	1.35	0.74	0.85	0.45
Second quarter	1.05	0.64	0.64	0.40
Third quarter	0.70	0.21	0.48	0.13
Fourth quarter	0.55	0.21	0.39	0.14

(1) We voluntarily de-listed from the TSE on January 17, 2003.

As of March 12, 2004, there were approximately 452 stockholders of record. This figure does not include beneficial owners who hold shares in nominee name. Our equity compensation plan information is provided as set forth in Part III, Item 11 herein.

Dividends

We pay the holders of Series A and Series B Preferred Stock an annual dividend at a rate of 6%, in shares of common stock or cash payable quarterly. On September 30, 2003 and December 31, 2003, our Board of Directors declared dividends payable to the holders of our Preferred Stock, which was paid in our common stock. A total of 204,507 and 133,873 common shares valued at $202,484 and $155,103 were issued on September 30, 2003 and December 31, 2003, respectively.

RECENT SALES OF UNREGISTERED SECURITIES

On July 16, 2003 we closed a preferred share private placement and raised an aggregate of $15,670,000, through the sale of $8,170,000 of our Series A Cumulative Convertible Preferred Stock and $7,500,000 of our Series B Cumulative Convertible Preferred Stock, to institutional and accredited investors. The Series A Preferred Stock is convertible into our common stock at a conversion price of $0.60 per share, and there was no escrow provision. In connection with the sale of the Series A Preferred Stock, we recorded a one-time imputed dividend charge of $6,045,799 related to the beneficial conversion feature of the stock. The Series B Preferred Stock is convertible into our common stock at a conversion price of $0.70 per share, and the proceeds from the sale of the Series B Preferred Stock remained in escrow until the achievement of specific milestones. In October 2003, we achieved these milestones and the $7,500,000 was released from escrow. In connection with the release of Series B preferred stock proceeds we recorded a one-time imputed dividend change of $11,807,144. Upon conversion, Preferred Stock will convert into 24,330,953 shares of our common stock. As of December 31, 2003, 720 shares of Series A and Series B Preferred Stock converted into 11,238,079 shares of our common stock. We will pay the holders of Series A and Series B Preferred Stock an annual dividend rate of 6%, in shares of common stock or cash payable quarterly, and each holder received 40% warrant coverage at an exercise price of $0.75 per share exercisable through July 13, 2008. Warrants granted to holders of our Preferred Stock entitle these investors the right to acquire 9,732,381 shares of our common stock. On September 30, 2003 and December 31, 2003, our Board of Directors declared dividends to the holders of our Preferred Stock, which were paid in our common stock. A total of 204,507 and 133,873 common shares valued at $202,484 and $155,103 were issued on September 30, 2003 and December 31, 2003, respectively. The placement agents for the Series A and B Preferred Stock were also granted warrants entitling the agents to acquire 1,944,428 shares of our common stock. Each placement agent's warrant entitles the holder to acquire one share of common stock at a price between $0.60 and $0.75 per share, exercisable through July 13, 2008. Through December 31, 2003, we incurred a total of $1,058,864 in expenses related to this offering. As of December 31, 2003, total warrants exercised were 133,333 resulting in $100,000 in gross proceeds.

On June 6, 2002, we closed a private placement of 10,225,891 special warrants. 7,985,574 special warrants were issued at a subscription price of $0.42 per special warrant and 2,240,317 special warrants were issued at a subscription price of $0.47 per special warrant, for gross proceeds of $4,406,890. Each $0.42 special warrant is exercisable, without additional payment, into one share of common stock and a warrant for the purchase of one-third of one share of common stock. Each full common stock purchase warrant is exercisable at $0.70. Total warrants at $0.70 are 2,661,851. Each $0.47 special warrant is exercisable, without additional payment, into one share of common stock and a warrant for the purchase of forty percent of one share of common stock Each full common stock purchase warrant is exercisable at $0.65. The gross proceeds of this financing were reduced by issuance costs including the placement agent's commission of 6.0% of the gross proceeds of $264,413 and other issue costs of $306,708. In October 2002, these special warrants were converted into 10,225,891 shares of common stock and 3,557,976 common stock purchaser warrants. On June 9, 2003, our Board of Directors approved an extension of the expiration date from June 6, 2003 until July 7, 2003 for the exercise of each of the $0.65 warrants and the $0.70 warrants that were issued in June 2002. Warrants were exercised for 779,093 shares resulting in gross proceeds of $539,803. All remaining warrants expired on July 7, 2003.

In connection with the issuance of the special warrants described in the proceeding paragraph, we granted Series "A" special warrants to the placement agent to acquire 665,000 shares of common stock for $0.47 per share. In September 2003, warrants to purchase 120,000 shares of common stock were exercised totaling $56,400 in gross proceeds. These warrants expire on June 6, 2005.

ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA

The following table sets forth our selected consolidated financial data for the periods indicated, derived from consolidated financial statements prepared in accordance with accounting principles generally accepted in the United States. The data set forth below should be read in conjunction with our Consolidated Financial Statements and the Notes thereto included elsewhere in this report and "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" set forth below. Effective June 15, 2001, the Board of Directors approved the change of our fiscal year-end from March 31 to December 31.

Fiscal Periods Ended	Year ended December 31, 2003	Year ended December 31, 2002	Nine months ended December 31, 2001	Year ended March 31, 2001	Year ended March 31, 2000
License fee and milestone payments	$ 5,882	$ 5,883	$ 981	$ 3,730,392	$ 416,667
Revenues under collaborative research and development arrangements and government grants	74,647	183,638	109,669	560,797	526,236
Interest income	65,497	32,316	98,865	443,629	556,193
Loss from continuing operations	(6,588,245)	(5,908,044)	(5,851,744)	(4,935,600)	(9,507,609)
Gain on disposal of assets	2,034,078	—	—	—	—
Discontinued operations	(110,740)	(56,783)	(508,046)	(283,696)	(1,196,221)
Net loss	(4,664,907)	(5,964,827)	(6,359,790)	(5,219,296)	(10,703,830)
Imputed and declared dividends	(18,210,530)	—	—	—	—
Loss attributable to common stockholder	(22,875,437)	(5,964,827)	(6,359,790)	(5,219,296)	(10,703,830)
Cumulative effect on prior years of change in accounting principle	—	—	—	(3,647,059)	—
Net loss after change in accounting principle	(22,875,437)	(5,964,827)	(6,359,790)	(8,866,355)	(10,703,830)
Amounts per common share - basic and diluted:	—	—	—	—	—
Loss from continuing operations	(0.12)	(0.15)	(0.17)	(0.18)	(0.43)
Gain (loss) from discontinued operations, net	0.03	—	(0.02)	(0.01)	(0.05)
Net loss	(0.09)	(0.15)	(0.19)	(0.19)	(0.48)
Imputed and declared dividends	(0.34)	—	—	—	—
Net loss attributed to common stockholder	(0.43)	(0.15)	(0.19)	(0.19)	(0.48)
Loss from cumulative effect of change in accounting principle	—	—	—	(0.13)	—
Net loss after effect of accounting change	(0.43)	(0.15)	(0.19)	(0.32)	(0.48)
Pro forma loss assuming the change in accounting principle is applied retroactively	(22,875,437)	(5,964,827)	(6,359,790)	(5,219,296)	(10,468,536)
Pro forma loss per common share – basic and diluted assuming the change in accounting principle is applied retroactively	(0.43)	(0.15)	(0.19)	(0.19)	(0.47)
Total assets	16,228,990	5,419,225	6,633,714	11,486,266	14,012,304
Long term liabilities, including current portion	—	20,642	48,117	117,463	118,384

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

The following discussion should be read in conjunction with the consolidated financial statements and the notes thereto contained elsewhere in this annual report. The following discussion and analysis explains trends in our financial condition and results of operations for the year ended December 31, 2003 and December 31, 2002, and the twelve months ended December 31, 2002 and December 31, 2001.

OVERVIEW

GENERAL

We are a San Diego-based biomedical company developing drug and gene delivery systems that use Electroporation Therapy (EPT) to deliver drugs and genes into cells. We are developing and commercializing novel medical therapies based on electroporation, addressing critical unmet treatment needs.

We formerly conducted our operations through two separate divisions, the Drug and Gene Delivery Division and the BTX Division. The Drug and Gene Delivery Division is developing drug and gene delivery systems based on electroporation to be used in the treatment of disease. The BTX division developed, manufactured and sold electroporation and electrofusion equipment to the research laboratory market. In 2002, our Board of Directors decided to focus our attention and resources on our Drug and Gene Delivery Division and to sell substantially all of the assets of the BTX Division. On January 31, 2003, we completed the sale of substantially all of the properties and assets that were primarily used in and associated with our BTX Division. Accordingly, the BTX Division, which was previously classified as a separate segment, has been classified as discontinued operations for financial reporting purposes. In the past, our revenues reflected product sales to the research market through the BTX Division and collaborative research arrangements and research grants through the Drug and Gene Delivery Division.

On October 20, 2003, we announced that we had entered into an agreement with Vical Incorporated (NASDAQ: VICL) wherein Vical has an option to a worldwide exclusive license for the use of Genetronics' proprietary *in vivo* electroporation delivery technology in combination with Vical's vaccine and therapeutic DNA technology for undisclosed targets. Upon completion of a collaborative research program, this partnership could lead to a definitive licensing agreement, encompassing multiple indications with the potential for commercialization.

We will continue to seek new licensing partners for the use of electroporation for the delivery of drugs in the treatment of cancer and delivery of genes into cells. We will not receive any additional milestone or licensing payments for development or sale of our products until a new strategic alliance is in place and we achieve the milestones specified in the new agreement, or product sales commence under the new agreement. There can be no assurance that we will be able to contract with such a partner or that we can achieve the milestones set out in a new agreement.

Until the commercialization of clinical products, we expect revenues to continue to be attributable to collaborative research arrangements, licensing fees, grants and interest income.

Due to the amount of expenses incurred in the development of the drug and gene delivery systems, we have been unprofitable in the last eight years. As of December 31, 2003, we have an accumulated deficit of $76,201,984. We expect to continue to incur substantial operating losses in the future due to continued spending on research and development programs, the funding of preclinical studies, clinical trials and regulatory activities and the costs of administrative activities.

RESULTS OF OPERATIONS

YEAR ENDED DECEMBER 31, 2003 COMPARED TO YEAR ENDED DECEMBER 31, 2002

The consolidated financial data for the year ended December 31, 2003 and December 31, 2002 are presented in the following table and the results of these two periods are used in the discussion thereafter.

Fiscal periods ended	Year ended December 31, 2003	Year ended December 31, 2002
License fee and milestone payments	$ 5,882	$ 5,883
Revenues under collaborative research and development arrangements	74,647	183,638
Total revenues	80,529	189,521
Research and development	2,146,909	2,466,129
General and administrative	4,566,882	3,658,307
Interest income	(65,497)	(32,316)
Interest expense	20,480	5,445
Total expenses	6,668,774	6,097,565
Loss from continuing operations	(6,588,245)	(5,908,044)
Discontinued operations:		
Gain on disposal of assets	2,034,078	—
Discontinued operations	(110,740)	(56,783)
Net loss	(4,664,907)	(5,964,827)
Imputed & declared dividends	(18,210,530)	—
Net loss attributable to common stockholders	$ (22,875,437)	$ (5,964,827)
Amount per common share – basic and diluted:		
Loss from continuing operations	$ (0.12)	$ (0.15)
Gain (loss) from discontinued operations, net	0.03	—
Net loss	(0.09)	(0.15)
Imputed and declared dividends on preferred stock	(0.34)	—
Net loss attributable to common stockholders	$ (0.43)	$ (0.15)

REVENUES

During the year ended December 31, 2003, we had total revenues of $80,529, compared to $189,521 for the year ended December 31, 2002. Total revenues decreased $108,992, or 58%, as compared to the same period last year. Revenues consist of license fees, milestone payments and amounts received from collaborative research and development arrangements.

During the year ended December 31, 2003 and 2002, we recorded revenues under license fees and milestone payments in the amount of $5,882 and $5,883, respectively. The licenses fees which were recorded for the year ended December 31, 2003 and 2002 resulted from the amortization of a $100,000 license fee received according to a non-exclusive license and supply agreement entered into with Valentis, Inc. We will receive further

payments, in the form of cash and stock of Valentis, if certain milestones are achieved under the agreement. In October 2002, we received an additional milestone payment of $100,000, which was recorded as deferred revenue. We continue to seek new licensing partners for the use of electroporation for the delivery of drugs in the treatment of cancer and delivery of genes into cells. Until a new strategic alliance is in place with a new partner and we achieve the milestones specified in the new agreement, or product sales commence under the new agreement, we will not receive any significant milestone or licensing payments for development or sale of its products.

During the year ended December 31, 2003, we recorded revenues under collaborative research and development arrangements in the amount of $74,647, compared to $183,638 for the year ended December 31, 2002. Revenues under collaborative research and development arrangements decreased $108,991, or 59%, as compared to the same period last year. For the year ended December 31, 2003 and 2002, revenues primarily reflected amounts received from several small research agreements. The decrease was primarily due to the expiration of the experimental stage portion of a small collaborative research agreement in late 2002, which required the purchase of our equipment for experiments, offset by several new small collaborative research agreements.

RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses, which include clinical trial costs, for the year ended December 31, 2003, were $2,146,909, compared to $2,466,129, for the year ended December 31, 2002. Research and development expenses decreased by $319,220, or 13%, as compared to the same period last year. The decrease reflects a reduction in research and development activities and lower salary expense during the first half of 2003. During the second half of 2003 research and development expenses increased primarily due to clinical/regulatory outside consultants and additional traveling expenses associated with potential European sites. We are currently planning to enter two Phase III head and neck clinical trials, during 2004, in the United States and Europe. These trials compare Electroporation Therapy (EPT) to surgery using a primary endpoint of function preservation and secondary endpoints of local tumor control, disease free survival and overall survival. Shifting from a primary endpoint of survival to a quality of life outcome allows us to carry out clinical trials that will be faster, less costly and have a higher likelihood of success. As a result, previously announced Phase III head and neck trials focusing on survival as a primary endpoint have been discontinued. In addition, we initiated two European post-regulatory approval trials for skin and head and neck cancer to gather additional clinical and pharmacoeconomic data. This trial is expected to allow adoption of the technology by thought leaders and allow us to apply for reimbursement. Clinical/regulatory expenses will increase substantially when these clinical trials are initiated.

GENERAL AND ADMINISTRATIVE EXPENSES

General and administrative expenses, which include business development expenses for the year ended December 31, 2003, were $4,566,882, compared to $3,658,307 for the year ended December 31, 2002. General and administrative expenses increased by $908,575, or 25%, as compared to the same period last year. The increase in general and administrative expenses mainly reflects increased salary and travel expense, increased severance costs resulting from the sale of our BTX division, increased corporate insurance costs, the absorption of certain BTX fixed costs, and increased business development efforts as well. In addition, during the first quarter of 2003, we recorded a realized loss of $102,238 associated with a foreign currency translation adjustment.

INTEREST INCOME AND INTEREST EXPENSE

Interest income for the year ended December 31, 2003, was $65,497, compared to $32,316 for the year ended December 31, 2002. The increase in interest income for the year ended December 31, 2003, as compared to the same period last year, was due to the receipt of the July 2003 investment funds from the sale of preferred stock. The increase in interest expense for the year ended December 31, 2003, was due to a charge to interest expense of $19,800 related to a bridge loan in the first quarter of 2003.

NET LOSS FROM CONTINUING OPERATIONS

We reported a net loss of $22,875,437 for the year ended December 31, 2003, compared to a net loss of $5,964,827 for the year ended December 31, 2002. The increased net loss for the year ended December 31, 2003, as

compared to the same period in the prior year, was primarily the result of charges related to imputed and declared dividends on preferred stock, lower revenues under collaborative research and development agreements and increased general and administrative expense. Expenses related to imputed and declared dividend on preferred stock amounted to $18,210,530 for the year ended December 31, 2003 and increased the net loss substantially.

TWELVE MONTHS ENDED DECEMBER 31, 2002 COMPARED TO TWELVE MONTHS ENDED DECEMBER 31, 2001

Due to the fiscal year end change from March 31 to December 31, beginning with the nine-month period ended December 31, 2001, the twelve months ended December 31, 2001 has been provided in this discussion of 2002 to allow a more meaningful comparison and discussion of trends in revenues and expenses. The consolidated financial data for the twelve months ended December 31, 2002 and December 31, 2001 are presented in the following table and the results of these two periods are used in the discussion thereafter.

Fiscal periods ended	Twelve months Ended December 31, 2002	Twelve months Ended December 31,2001 (unaudited)
License fee and milestone payments	$ 5,883	$ 3,471,571
Revenues under collaborative research and development arrangements	183,638	254,932
Government grants	—	4,032
Total revenues	189,521	3,730,535
Research and development	2,466,129	3,709,370(1)
General and administrative	3,658,307	5,114,651(1)
Interest income	(32,316)	(202,446)
Interest expense	5,445	16,354
Foreign exchange loss	—	66,453
Total expenses	6,097,565	8,704,382
Net loss from continuing operations	(5,908,044)	(4,973,847)
Discontinued operations	(56,783)	(441,813)
Net loss	$ (5,964,827)	$ (5,415,660)
Amount per common share — basic and diluted:		
Loss from continuing operations	$ (0.15)	$ (0.15)
Loss from discontinuing operations	—	(0.01)
Net loss	$ (0.15)	$ (0.16)

(1) Certain reclassifications have been made to conform to the December 31, 2002 presentation.

REVENUES

Due to the recognition of the license fee related to the licensing and development agreement with Ethicon Endo-Surgery, Inc. as revenue in 2001, license fee and milestone payments for the twelve months ended December 31, 2002 declined over the same period of the previous year.

In November 2001, we entered into a non-exclusive license and supply agreement with Valentis, Inc. in the gene therapy field to use our MedPulser® System in the development of our Genemedicine™ products. We have received an upfront payment of $100,000 in the first quarter of 2002 and fourth quarter of 2002 and may receive

additional payments upon the achievements of specified milestones in the form of cash and stock of Valentis. The agreement expires in 2018.

There were no revenues from grant funding for the twelve months ended December 31, 2002 compared to $4,032 for the period ended December 31, 2001. All active grants have expired. We continue to pursue additional Small Business Innovation Research Grants. No assurance can be given that any such awards will be obtained.

During the twelve months ended December 31, 2002, we recorded revenues under collaborative research and development arrangements in the amount of $183,638, compared to $254,932 for the twelve months ended December 31, 2001. For the twelve months ended December 2002, revenues primarily reflected amounts received from several small research agreements. Revenues decreased over the previous year's period due to the fact that a major collaborative research agreement in the gene therapy area entered into in late 1999 was completed in the summer of 2001.

RESEARCH AND DEVELOPMENT

Research and development, which includes clinical trial costs, decreased by $1,243,241, or 34%, from $3,709,370 for the twelve months ended December 31, 2001 to $2,466,129 for the twelve months ended December 31, 2002. The decrease was primarily the result of a reduction in work force in October 2001 due to limited capital resources.

GENERAL AND ADMINISTRATIVE EXPENSES

General and administrative expenses, which consist of business development expenses, and general administrative expenses, decreased by $1,456,344, or 28%, from $5,114,651 for the twelve months ended December 31, 2001, to $3,658,307 for the twelve months ended December 31, 2002. The decrease in the general and administrative area was primarily related to lower salary expenses resulting from a reduction in work force by 20% in October of 2001. We reorganized to more effectively manage existing resources and to accommodate our stronger focus on oncology and gene therapy. Our work force was reduced by 16 employees, including the Chief Operating Officer and the Chief Financial Officer.

As part of the reorganization in October 2001, we decided to postpone marketing efforts to launch the MedPulser Electroporation Therapy System in Europe that were initiated in early 2001.

INTEREST INCOME AND INTEREST EXPENSE

Interest income decreased from $202,446 for the twelve months ended December 31, 2001 to $32,316 for the twelve months ended December 31, 2002. The decrease resulted primarily from the diminishing availability of investment funds due to the continuing operating losses. The decrease in interest expenses was due to the expiration of certain capital leases.

NET LOSS FROM CONTINUING OPERATIONS

We reported a net loss from continuing operations of $5,908,044 for the twelve months ended December 31, 2002 compared to $4,973,847 for the twelve months ended December 31, 2001, an increase of $934,197, or 19%. The increase in loss was a result of lower revenues from license fees and milestone payments as well as lower revenues from grant funding and collaborative research and development arrangements, offset by lower expenses for the twelve month period ended December 31, 2002.

LIQUIDITY AND CAPITAL RESOURCES

During the last five fiscal years, our primary uses of cash have been to finance our research and development activities and clinical trial activities. Since inception, we have satisfied our cash requirements principally from proceeds from the sale of equity securities.

On July 16, 2003 we closed a preferred share private placement and raised an aggregate of $15,670,000, through the sale of $8,170,000 of our Series A Cumulative Convertible Preferred Stock and $7,500,000 of our Series B Cumulative Convertible Preferred Stock, to institutional and accredited investors. The Series A Preferred Stock is convertible into our common stock at a conversion price of $0.60 per share, and there was no escrow provision. In connection with the sale of the Series A Preferred Stock, we recorded a one-time imputed dividend charge of $6,045,799 related to the beneficial conversion feature of the stock. The Series B Preferred Stock is convertible into our common stock at a conversion price of $0.70 per share, and the proceeds from the sale of the Series B Preferred Stock remained in escrow until the achievement of specific milestones. In October 2003, we achieved these milestones and the $7,500,000 was released form escrow. In connection with the release of series B preferred stock proceeds, we recorded a one-time imputed dividend charge of $11,807,144. Upon conversion, series A and series B Preferred Stock will convert into 24,330,953 shares of our common stock. As of December 31, 2003, 720 shares of Series A and Series B Preferred Stock converted into 11,238,079 shares of our common stock. We will pay the holders of Series A and Series B Preferred Stock an annual dividend rate of 6%, in shares of common stock or cash payable quarterly, and each holder received 40% warrant coverage at an exercise price of $0.75 per share exercisable through July 13, 2008. Warrants granted to holders of our Preferred Stock entitle these investors the right to acquire 9,732,381 shares of our common stock. On September 30, 2003 and December 31, 2003, our Board of Directors declared dividends to the holders of our Preferred Stock which were paid in our common stock. A total of 204,507 and 133,873 common shares valued at $202,484 and $155,103 were issued on September 30, 2003 and December 31, 2003 respectively. The placement agents for the Series A and B Preferred Stock were also granted warrants entitling the agents to acquire 1,944,428 shares of our common stock. Each placement agent's warrant entitles the holder to acquire one share of common stock at a price between $0.60 and $0.75 per share, exercisable through July 13, 2008. Through December 31, 2003, we have incurred a total of $1,058,864 in expenses related to this offering. As of December 31, 2003, total warrants exercised were 133,333 resulting in $100,000 in gross proceeds.

On January 31, 2003, we completed the sale of substantially all of the properties and assets that are primarily used in our BTX Division. Our stockholders, in a special meeting of stockholders held on January 31, 2003, voted to approve the proposed sale to Harvard Bioscience, Inc. The terms of the sale are $3.7 million in cash, subject to certain adjustments, and royalty on net sales of BTX products above certain sales targets for a period of four years.

On June 6, 2002, we closed a private placement of 10,225,891 special warrants. 7,985,574 special warrants were issued at a subscription price of $0.42 per special warrant and 2,240,317 special warrants were issued at a subscription price of $0.47 per special warrant, for gross proceeds of $4,406,890. Each $0.42 special warrant is exercisable, without additional payment, into one share of common stock and a warrant for the purchase of one-third of one share of common stock. Each full common stock purchase warrant is exercisable at $0.70. Total warrants at $0.70 are 2,661,851. Each $0.47 special warrant is exercisable, without additional payment, into one share of common stock and a warrant for the purchase of forty percent of one share of common stock Each full common stock purchase warrant is exercisable $0.65. The gross proceeds of this financing were reduced by issuance costs including the placement agent's commission of 6.0% of the gross proceeds of $264,413 and other issue costs of $306,708. In October 2002, these special warrants were converted into 10,225,891 shares of common stock and 3,557,976 common stock purchaser warrants. On June 9, 2003, our Board of Directors approved an extension of the expiration date from June 6, 2003 until July 7, 2003 for the exercise of each of the $0.65 warrants and the $0.70 warrants that were issued in June 2002. Warrants were exercised for 779,093 shares resulting in gross proceeds of $539,803. All remaining warrants expired on July 7, 2003.

In connection with the issuance of the special warrants described in the proceeding paragraph, we granted Series "A" special warrants to the placement agent to acquire 665,000 shares of common stock for $0.47 per share. In September 2003, warrants to purchase 120,000 shares of common stock were exercised totaling $56,400 in gross proceeds. All remaining warrants expired on June 6, 2003.

As of December 31, 2003, we had working capital of $12,593,153 compared to $1,039,908 as of December 31, 2002. The increase is primarily a result of the net proceeds of $14,611,134 from the sales of series A and B preferred stock.

We do not believe that inflation has had a material impact on our result of operations for the years ended December 31, 2003, 2002, and 2001.

As of December 31, 2003, we had an accumulated deficit of $76,201,984. We have operated at a loss since 1994, and we expect this to continue for some time. The amount of the accumulated deficit will continue to increase, as it will be expensive to continue clinical, research and development efforts. If these activities are successful and if we receive approval from the FDA to market equipment, then even more funding will be required to market and sell the equipment. We are evaluating potential partnerships as additional ways to fund operations. We will continue to rely on outside sources of financing to meet our capital needs beyond next year. The outcome of these matters cannot be predicted at this time. Further, there can be no assurance, assuming we successfully raise additional funds, that we will achieve positive cash flow. If we are not able to secure additional funding, we will be required to further scale back our research and development programs, preclinical studies and clinical trials, general, and administrative activities and may not be able to continue in business. Including the cash proceeds received from the July 2003 financing, the exercises of employee stock options and investor warrants, and the sale of the BTX Division, we believe we have sufficient funds to fund operations through April 2005.

Our long-term capital requirements will depend on numerous factors including:

- The progress and magnitude of the research and development programs, including preclinical and clinical trials;
- The time involved in obtaining regulatory approvals;
- The cost involved in filing and maintaining patent claims;
- Competitor and market conditions;
- The ability to establish and maintain collaborative arrangements;
- The ability to obtain grants to finance research and development projects; and
- The cost of manufacturing scale-up and the cost of commercialization activities and arrangements.

The ability to generate substantial funding to continue research and development activities, preclinical and clinical studies and clinical trials and manufacturing, scale-up, and selling, general, and administrative activities is subject to a number of risks and uncertainties and will depend on numerous factors including:

- The ability to raise funds in the future through public or private financings, collaborative arrangements, grant awards or from other sources;
- Our potential to obtain equity investments, collaborative arrangements, license agreements or development or other funding programs in exchange for manufacturing, marketing, distribution or other rights to products developed by us; and
- The ability to maintain existing collaborative arrangements.

We cannot guarantee that additional funding will be available when needed or on favorable terms. If it is not, we will be required to scale back its research and development programs, preclinical studies and clinical trials, and selling, general, and administrative activities, or otherwise reduce or cease operations and our business and financial results and condition would be materially adversely affected.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Contractual Obligations

As of December 31, 2003, we did not have any long term debt or other known contractual obligations. Our operating leases consist of a facility lease which expires on December 31, 2004 and operating leases for copiers which expire in 2006.

CRITICAL ACCOUNTING POLICIES

We believe the following critical accounting policies involve significant judgments and estimates that are used in the preparation of our financial statements.

Revenue Recognition

We have adopted a strategy of co-developing or licensing our gene delivery technology for specific genes or specific medical indications. Accordingly, we have entered into collaborative research and development agreements and have received funding for pre-clinical research and clinical trials. Payments under these agreements, which are non-refundable, are recorded as revenue as the related research expenditures are incurred pursuant to the terms of the agreement and provided collectibility is reasonably assured.

License fees comprise initial fees and milestone payments derived from collaborative licensing arrangements. Non-refundable milestone payments continue to be recognized upon (i) the achievement of specified milestones when we have earned the milestone payment, (ii) the milestone payment is substantive in nature and the achievement of the milestone was not reasonably assured at the inception of the agreement. We defer payments for milestone events which are reasonably assured and recognize them ratably over the minimum remaining period of our performance obligations. Payments for milestones which are not reasonably assured are treated as the culmination of a separate earnings process and are recognized as revenue when the milestones are achieved.

Patent and license costs

Patents are recorded at cost and amortized using the straight-line method over the expected useful lives of the patents or 17 years, whichever is less. Cost is comprised of the consideration paid for patents and related legal costs. If management determines that development of products to which patent costs relate is not reasonably certain or that costs exceed recoverable value, such costs are charged to operations.

License costs are recorded based on the fair value of consideration paid and amortized using the straight-line method over the expected useful life of the underlying patents.

Long-lived assets

We assess the recoverability of the affected long-lived assets by determining whether the carrying value of such assets can be recovered through undiscounted future operating cash flows. If impairment is indicated, we reduce the carrying value of the asset to fair value. While our current and historical operating and cash flow losses are potential indicators if impairment, we believe the future cash flows to be received from the long-lived assets will exceed the assets' carrying value, and accordingly, we have not recognized any impairment losses through December 31, 2003.

Research and Development Expenses

Since our inception, virtually all of our activities have consisted of research and development efforts related to developing our electroporation technologies. We expense all such expenditures in the period incurred.

ITEM 7A . QUALITATIVE AND QUANTITATIVE DISCLOSURES ABOUT MARKET RISK

Our exposure to market risk for changes in interest rates related primarily to the increase or decrease in the amount of interest income we can earn on our cash equivalents and on the increase or decrease in the amount of interest expense we must pay with respect to our capital lease obligations. We are subject to interest rate risk on our cash equivalents which at December 31, 2003 had an average interest rate of approximately 1.15%. Under our current policies, we do not use interest rate derivative instruments to manage exposure to interest rate changes. We ensure the safety and preservation of our invested principal funds by limiting default risk, market risk and reinvestment risk. We mitigate default risk by investing in investment grade securities. A hypothetical 100 basis point adverse move in interest rates along the entire interest rate yield curve would not materially affect the fair value of our interest sensitive financial instruments. Declines in interest rates over time will, however, reduce our interest income while increases in interest rates over time will increase our interest expense.

FOREIGN CURRENCY RISK

We have operated primarily in the United States and most transactions in the fiscal year ended December 31, 2003, have been made in U.S. dollars. Accordingly, we have not had any material exposure to foreign currency rate fluctuations, nor do we have any foreign currency hedging instruments in place.

ITEM 8 . FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information required by this Item 8 is incorporated by reference to our Consolidated Financial Statements and Independent Auditors' Report beginning at page F-1 of this report.

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

None.

ITEM 9A . CONTROLS AND PROCEDURES

(a) Evaluation of Disclosure Controls and Procedures

The term "disclosure controls and procedures" refers to the controls and procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files under Rule 13a-14 of the Securities and Exchange Act of 1934 (the "Exchange Act") is recorded, processed, summarized and reported within required time periods. As of the end of the period covered by this annual report on Form 10-K (the "Evaluation Date"), we carried out an evaluation under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer of the effectiveness of our disclosure controls and procedures. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of the Evaluation Date, such controls and procedures were effective in ensuring that required information will be disclosed on a timely basis in our periodic reports filed with the SEC under the Exchange Act.

Changes in Internal Controls

There have been no changes in our internal control over financial reporting identified in connection with the evaluation required by paragraph (d) of Rule 13a-15 or 15d-15 under the Exchange Act that occurred during the quarter ended December 31, 2003 that has materially affected, or is likely to affect, our internal control over financial reporting.

PART III

ITEM 10 . DIRECTORS AND EXECUTIVE OFFICERS OF THE COMPANY

The information required by this Item 10 is hereby incorporated by reference from our definitive proxy

statement, to be filed pursuant to Regulation 14A within 120 days after the end of our 2003 fiscal year.

ITEM 11 . EXECUTIVE COMPENSATION

The information required by this Item 11 is hereby incorporated by reference from our definitive proxy statement, to be filed pursuant to Regulation 14A within 120 days after the end of our 2003 fiscal year.

ITEM 12 . SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information required by this Item 12 is hereby incorporated by reference from our definitive proxy statement, to be filed pursuant to Regulation 14A within 120 days after the end of our 2003 fiscal year.

ITEM 13 . CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information required by this Item 13 is hereby incorporated by reference from our definitive proxy statement, to be filed pursuant to Regulation 14A within 120 days after the end of our 2003 fiscal year.

PART IV

ITEM 14 . PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item 14 is hereby incorporated by reference from our definitive proxy statement, to be filed pursuant to Regulation 14A within 120 days after the end of our 2003 fiscal year.

P ART IV

ITEM 15 . EXHIBITS, FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K

(a) Financial Statements—Consolidated financial statements required to be filed hereunder are indexed on Page F-1 hereof.

(b) Reports on Form 8-K—The Registrant filed one current report on Form 8-K during the three months ended December 31, 2003.

On December 18, 2003, under Item 5—Other Events. Regarding a private offering to institutional and accredited investors that raised $15.67 million in gross proceeds (assuming no exercise of warrants) through the sale of 817 shares of Series A Cumulative Convertible Preferred Stock, $0.001 par value per share, and 750 shares of Series B Preferred Stock, $0.001 par value per share, which collectively are convertible into 24,330,953 shares of Common Stock, and warrants to purchase another 9,732,382 shares of Common Stock.

(c) Exhibits—The following exhibits are filed as part of this annual report on Form 10-K:

Exhibit Number	Description of Document
2.1	Plan of Reorganization (incorporated by reference to exhibit number 2.1 of the Registrant's Registration Statement on Form S-4, as amended (File No. 333-56978), filed with the Securities and Exchange Commission on April 5, 2001).
3.1	Certificate of Incorporation (incorporated by reference to exhibit number 3.1 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
3.1(a)	Certificate of Amendment to Certificate of Incorporation (incorporated by reference to exhibit number 3.2 of the Registrant's Form 10-K for the year ending December 31, 2002).
3.2	Amended and Restated Bylaws (incorporated by reference to exhibit number 3.2 of the Registrant's

	Form 10-Q for the three months ending September 30, 2002).
3.3	Certificate of Designations, Rights and Preferences of Series A Cumulative Convertible Preferred Stock (incorporated by reference to exhibit number 3..3 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
3.4	Certificate of Designations, Rights and Preferences of Series B Cumulative Convertible Preferred Stock (incorporated by reference to exhibit number 3.4 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
4.1	Amended and Restated Stockholders Rights Agreement dated June 20, 1997 by and between the Registrant and Computershare Trust Company of Canada, as amended on March 25, 2003 (incorporated by reference to Exhibit A to the Registrant's Definitive Proxy Statement filed with the Securities and Exchange Commission on April 28, 2003).
4.2†	Warrant to Purchase Common Stock, dated September 15, 2000 by and between the Registrant and the University of South Florida Research Foundation (incorporated by reference to exhibit number 10.6 of the Registrant's Form 10-Q for the three months ending September 30, 2000).
4.3†	Warrant to Purchase Common Stock, dated September 15, 2000 by and between the Registrant and Dr. Richard Gilbert (incorporated by reference to exhibit number 10.7 of the Registrant's Form 10-Q for the three months ending September 30, 2000).
4.4†	Warrant to Purchase Common Stock, dated September 15, 2000 by and between the Registrant and Dr. Richard Heller (incorporated by reference to exhibit number 10.8 of the Registrant's Form 10-Q for the three months ending September 30, 2000).
4.5†	Warrant to Purchase Common Stock, dated September 15, 2000 by and between the Registrant and Dr. Mark Jaroszeski (incorporated by reference to exhibit number 10.9 of the Registrant's Form 10-Q for the three months ending September 30, 2000).
4.6	Investors Rights Agreement, dated July 14, 2003, between the Registrant and the Purchasers listed on Schedule 1 thereto (incorporated by reference to exhibit number 4.2 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
4.7	Form of Series A Common Stock Purchase Warrant, dated July 14, 2003, between the Registrant and the Purchasers listed on Schedule 1 of Purchase Agreement (Exhibit 10.4) (incorporated by reference to exhibit number 4.3 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
4.8	Form of Series B Common Stock Purchase Warrant, dated July 14, 2003, between the Registrant and the Purchasers listed on Schedule 1 of Purchase Agreement (Exhibit 10.4) (incorporated by reference to exhibit number 4.4 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
4.9	Placement Agent Series A Common Stock Purchase Warrant, dated July 14, 2003, between the Registrant and SCO Securities LLC (incorporated by reference to exhibit number 4.5 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
4.10	Placement Agent Series B Common Stock Purchase Warrant, dated July 14, 2003, between the Registrant and SCO Securities LLC (incorporated by reference to exhibit number 4.6 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
4.11	Specimen common stock certificate (incorporated by reference to exhibit number 4.8 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
10.1	Amended 2000 Stock Option Plan (incorporated by reference to exhibit number 10.2 of the Registrant's Form 10-Q for the three months ending September 30, 2001).
10.2	Forms of Incentive and Nonstatutory Stock Option Agreements used in connection with the 2000 Stock Option Plan (incorporated by reference to exhibit number 99.2 of the Registrant's Registration Statement on Form S-4 (File No. 333-58168) filed with the Securities and Exchange Commission on April 2, 2001).
10.3	Agency Agreement — Special Warrant Private Placement dated November 1, 2001 by and between

	the Registrant and Canaccord Capital Corporation (incorporated by reference to exhibit number 10.23 of the Registrant's Form 10-K for the year ending December 31, 2001).
10.4	Preferred Stock and Warrant Purchase Agreement, dated July 14, 2003, between the Registrant and the Purchasers listed on Schedule 1 thereto (incorporated by reference to exhibit number 4.1 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
10.5	Employment Agreement dated October 10, 2001 by and between the Registrant and Avtar Dhillon (incorporated by reference to exhibit number 99.1 of the Registrant's Registration Statement on Form S-3, as amended (File No. 333-76738), filed with the Securities and Exchange Commission on February 25, 2002).
10.6	Employment Agreement dated October November 15, 2001 by and between the Registrant and James L. Heppell (incorporated by reference to exhibit number 10.24 of the Registrant's Form 10-K for the year ending December 31, 2001).
10.7	Lease Agreement by and between the Registrant and Nexus Sorrento Glen LLC dated August 26, 1999 (incorporated by reference to exhibit number 10.15 of the Registrant's Registration Statement on Form S-1, as amended (File No. 333-88427), filed with the Securities and Exchange Commission on October 5, 1999).
10.8†	License Agreement dated September 20, 2000 by and between the Registrant and the University of South Florida Research Foundation, Inc. (incorporated by reference to exhibit number 10.5 of the Registrant's Form 10-Q for the three months ending September 30, 2000).
10.9	Asset Purchase Agreement by and among the Registrant, Genetronics, Inc., a subsidiary of the Registrant, and Harvard Bioscience, Inc. dated December 24, 2002 (incorporated by reference to Exhibit A to the Registrant's Definitive Proxy Statement filed with the Securities and Exchange Commission on January 7, 2003).
10.10	Financial Consultant Agreement, dated October 3, 2002, between the Registrant and Catalyst Capital, LLC (incorporated by reference to exhibit number 4.7 of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
10.10(a)	Amendment to Financial Consultant Agreement, dated July 14, 2003, between the Registrant and Catalyst Capital, LLC (incorporated by reference to exhibit number 4.7(a) of the Registrant's Registration Statement on Form S-3 (File No. 333-108752) filed with the Securities and Exchange Commission on September 12, 2003).
21.1	Subsidiaries of the Registrant (incorporated by reference to exhibit number 21.1 of the Registrant's Form 10-K for the year ending March 31, 2000).
23.1	Consent of Ernst & Young LLP, Independent Auditors (San Diego, California)
24.1	Power of Attorney (included on signature page).
31.1	Certification of the Chief Executive Officer pursuant Securities Exchange Act Rule 13a-14(a).
31.2	Certification of the Chief Financial Officer pursuant Securities Exchange Act Rule 13a-14(a).
32	Certification pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

† The Registrant has applied with the Secretary of the Securities and Exchange Commission for confidential treatment of certain information pursuant to Rule 24b-2 of the Securities Exchange Act of 1934. The Registrant has filed separately with its application a copy of the exhibit including all confidential portions, which may be made available for public inspection pending the Securities and Exchange Commission's review of the application in accordance with Rule 24b-2.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Company has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on this 29 th day of March, 2004.

Genetronics Biomedical Corporation

By: /s/ Avtar Dhillon

Avtar Dhillon
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Dr. Avtar S. Dhillon and Peter Kies, or any of them, his attorney-in-fact, each with the power of substitution, for him in any and all capacities, to sign any amendments to this Annual 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 each of said attorneys-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 in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Avtar Dhillon Avtar Dhillon	President, Chief Executive Officer (Principal Executive Officer), Director	March 29, 2004
/s/ Peter Kies Peter Kies	Chief Financial Officer (Principal Accounting Officer and Principal Financial Officer)	March 29, 2004
/s/ Felix Theeuwes Felix Theeuwes	Director	March 29, 2004
/s/ James L. Heppell James L. Heppell	Director	March 29, 2004
/s/ Gordon J. Politeski Gordon J. Politeski	Director	March 29, 2004
/s/ Tazdin Esmail Tazdin Esmail	Director	March 29, 2004
/s/ Gene Larson Gene Larson	Director	March 29, 2004
/s/ Simon X. Benito Simon X. Benito	Director	March 29, 2004

GENETRONICS BIOMEDICAL CORPORATION
(in United States dollars)

Index to Financial Statements

The consolidated financial statements required by this item are submitted in a separate section beginning on page F-2 of this Annual Report on Form 10-K.

REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

To the Board of Directors and Stockholders of
Genetronics Biomedical Corporation

We have audited the accompanying consolidated balance sheets of Genetronics Biomedical Corporation (the "Company") as of December 31, 2003 and 2002 and the related consolidated statements of operations, stockholders' equity and cash flows for the years ended December 31, 2003 and 2002 and the nine months ended December 31, 2001. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements 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 an audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2003 and 2002 and the consolidated results of its operations and its cash flows for the years ended December 31, 2003 and 2002 and the nine months ended December 31, 2001, in conformity with accounting principles generally accepted in the United States.

/s/ Ernst & Young, LLP
Ernst & Young, LLP

San Diego, California
March 10, 2004

Genetronics Biomedical Corporation

CONSOLIDATED BALANCE SHEETS

	December 31, 2003	December 31, 2002
ASSETS		
Current		
Cash and cash equivalents	**$ 13,460,446**	$ 875,444
Accounts receivable	**175,000**	75,588
Prepaid expenses and other	**116,526**	229,384
Assets of discontinued operations	**—**	1,517,496
Total current assets	**13,751,972**	2,697,912
Fixed assets, net	**175,902**	295,321
Patents and other assets, net	**2,301,116**	2,425,992
Total assets	**$ 16,228,990**	$ 5,419,225
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current		
Accounts payable and accrued expenses	**$ 827,655**	$ 1,032,939
Deferred revenue	**331,164**	202,654
Current portion of obligations under capital leases	**—**	20,642
Liabilities of discontinued operations	**—**	401,769
Total current liabilities	**1,158,819**	1,658,004
Deferred rent	**22,536**	35,851
Total liabilities	**1,181,355**	1,693,855
Stockholders' equity		
Preferred stock — par value $0.001; Authorized shares: 10,000,000, issued and outstanding: 847 at December 31, 2003 and none at December 31, 2002	**1**	—
Common stock — par value $0.001; Authorized shares: 300,000,000, issued and outstanding: 63,681,728 at December 31, 2003 and 50,398,552 at December 31, 2002	**63,682**	50,398
Additional paid-in capital	**91,185,936**	57,137,202
Receivables from executive/stockholders for stock purchase	**—**	(33,445)
Accumulated comprehensive income	**—**	(102,238)
Accumulated deficit	**(76,201,984)**	(53,326,547)
Total stockholders' equity	**15,047,635**	3,725,370
Total liabilities and stockholders' equity	**$ 16,228,990**	$ 5,419,225

See accompanying notes

Genetronics Biomedical Corporation

CONSOLIDATED STATEMENTS OF OPERATIONS

	Year ended December 31, 2003	Year ended December 31, 2002	Nine months ended December 31, 2001
REVENUE			
License fee and milestone payments	**$ 5,882**	$ 5,883	$ 981
Revenues under collaborative research and development arrangements	**74,647**	183,638	109,669
Total revenue	**80,529**	189,521	110,650
EXPENSES			
Research and development	**2,146,909**	2,466,129	2,078,421
General and administrative	**4,566,882**	3,658,307	3,972,096
Total operating expenses	**6,713,791**	6,124,436	6,050,517
Loss from operations	**(6,633,262)**	(5,934,915)	(5,939,867)
Other income(expense)			
Interest income	**65,497**	32,316	98,865
Interest expense	**(20,480)**	(5,445)	(10,742)
Loss from continuing operations	**(6,588,245)**	(5,908,044)	(5,851,744)
Discontinued operations:			
Gain on disposal of assets	**2,034,078**	—	—
Loss from discontinued operations	**(110,740)**	(56,783)	(508,046)
Net loss	**(4,664,907)**	(5,964,827)	(6,359,790)
Imputed and declared dividends on preferred stock	**(18,210,530)**	—	—
Net loss attributable to common stockholders	**(22,875,437)**	(5,964,827)	(6,359,790)
Unrealized gain on short-term investments/ reclassification of loss	—	—	(2,152)
Comprehensive loss	**$ (22,875,437)**	$ (5,964,827)	$ (6,361,942)
Amounts per common share – basic and diluted:			
Loss from continued operations	**$ (0.12)**	$ (0.15)	$ (0.17)
Gain (loss) from discontinued operations, net	**0.03**	—	(0.02)
Net loss	**(0.09)**	(0.15)	(0.19)
Imputed and declared dividends on preferred stock	**(0.34)**	—	—
Net loss attributable to common stockholders	**$ (0.43)**	$ (0.15)	$ (0.19)
Weighted average number of common shares	**53,266,494**	40,592,831	33,759,404

See accompanying notes

Genetronics Biomedical Corporation

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Preferred Stock		Common Stock			
	Number of shares	Amount Series A & B	Number of shares	Amount	Additional paid-in capital	Special warrant
Balance at March 31, 2001	—	—	33,756,718	$ 33,757	$ 50,958,547	$ —
Exercise of stock options for cash	—	—	4,250	4	4,619	—
Issuance of special warrants (net of issuance cost of $596,685 incurred in 2001) for cash	—	—	—	—	—	1,748,937
Issuance of note receivable from executive for purchase of stock	—	—	—	—	—	—
Receivable from stockholders	—	—	—	—	—	—
Common stock issuable pursuant to services	—	—	—	—	—	—
Unrealized losses on short-term investments	—	—	—	—	—	—
Stock-based compensation	—	—	—	—	160,594	—
Net loss	—	—	—	—	—	—
Balance at December 31, 2001	—	—	33,760,968	33,761	51,123,760	1,748,937
Exercise of stock options for cash	—	—	499,199	499	360,788	—
Exercise of warrants for cash	—	—	500,000	500	337,006	—
Issued pursuant to exercise of special warrants (net of issuance costs of $413,833 incurred in 2002)	—	—	5,212,494	5,212	1,329,792	(1,748,837)
Issued pursuant to exercise of series A special warrants	—	—	100,000	100	—	(100)
Issuance of special warrants (net of issuance cost of $571,121) for cash	—	—	—	—	—	3,835,769
Issued pursuant to exercise of special warrants	—	—	10,225,891	10,226	3,825,543	(3,835,769)
Common stock issued pursuant to services	—	—	100,000	100	54,900	—
Repayment of note receivable from executive for purchase of stock	—	—	—	—	—	—
Repayment of receivable from shareholders	—	—	—	—	—	—
Stock-based compensation	—	—	—	—	105,413	—
Net loss	—	—	—	—	—	—
Balance at December 31, 2002	—	—	50,398,552	50,398	57,137,202	—
Issuance of preferred stock net of issuance cost of $1,058,864 for cash	1,567	2	—	—	14,611,133	—
Issuance of common stock for corporate finance services	—	—	156,166	156	156	—
Exercise of stock options for cash	—	—	518,125	519	372,362	—
Exercise of warrants for cash	—	—	1,032,426	1,033	695,169	—
Conversions of preferred stock to common	(720)	(1)	11,238,079	11,238	(11,237)	—
Repayment of note receivable	—	—	—	—	—	—
Stock-based compensation	—	—	—	—	170,959	—
Declared dividends	—	—	338,380	338	357,249	—
Imputed dividends	—	—	—	—	17,852,943	—
Foreign currency translation adjustment	—	—	—	—	—	—
Net loss	—	—	—	—	—	—
Balance at December 31, 2003	847	$ 1	63,681,728	$ 63,682	$ 91,185,936	$ —

	Receivable from executive/	Common stock	Accumulated comprehensive	Accumulated	Total stock-holder's

	stockholder	Issuable	income	deficit	equity
Balance at March 31, 2001	$ —	$ —	$ (100,086)	$ (41,001,930)	$ 9,890,288
Exercise of stock options for cash	—	—	—	—	4,623
Issuance of special warrants (net of issuance cost of $596,685 incurred in 2001) for cash	—	—	—	—	1,748,937
Issuance of note receivable from executive for purchase of stock	(65,271)	—	—	—	(65,271)
Receivable from stockholders	(469,124)	—	—	—	(469,124)
Common stock issuable pursuant to services	—	55,000	—	—	55,000
Unrealized losses on short-term investments	—	—	(2,152)	—	(2,152)
Stock-based compensation	—	—	—	—	160,594
Net loss	—	—	—	(6,359,790)	(6,359,790)
Balance at December 31, 2001	(534,395)	55,000	(102,238)	(47,361,720)	4,963,105
Exercise of stock options for cash	—	—	—	—	361,287
Exercise of warrants for cash	—	—	—	—	337,506
Issued pursuant to exercise of special warrants (net of issuance costs of $413,833 incurred in 2002)	—	—	—	—	(413,833)
Issued pursuant to exercise of series A special warrants	—	—	—	—	—
Issuance of special warrants (net of issuance cost of $571,121) for cash	—	—	—	—	3,835,769
Issued pursuant to exercise of special warrants	—	—	—	—	—
Common stock issued pursuant to services	—	(55,000)	—	—	—
Repayment of note receivable from executive for purchase of stock	31,826	—	—	—	31,826
Repayment of receivable from shareholders	469,124	—	—	—	469,124
Stock-based compensation	—	—	—	—	105,413
Net loss	—	—	—	(5,964,827)	(5,964,827)
Balance at December 31, 2002	(33,445)	—	(102,238)	(53,326,547)	3,725,370
Issuance of preferred stock net of issuance cost of $1,058,864 for cash	—	—	—	—	14,611,135
Issuance of common stock for corporate finance services	—	—	—	—	312
Exercise of stock options for cash	—	—	—	—	372,881
Exercise of warrants for cash	—	—	—	—	696,202
Conversions of preferred stock to common	—	—	—	—	—
Repayment of note receivable	33,445	—	—	—	33,445
Stock-based compensation	—	—	—	—	170,959
Declared dividends	—	—	—	—	357,587
Imputed dividends	—	—	—	—	17,852,943
Foreign currency translation adjustment	—	—	102,238	—	102,238
Net loss	—	—	—	(22,875,437)	(22,875,437)
Balance at December 31, 2003	$ —	$ —	$ —	$ (76,201,984)	$ 15,047,635

See accompanying notes

Genetronics Biomedical Corporation

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended December 31, 2003	Year ended December 31, 2002	Nine Months Ended December 31, 2001
OPERATING ACTIVITIES			
Loss from continued operations	$ (6,588,245)	$ (5,908,044)	$ (5,851,744)
Items not involving cash:			
Compensation for services paid in stock options	170,959	105,413	215,594
Depreciation and amortization	584,413	619,344	530,244
Gain on disposal of fixed assets	—	—	(6,467)
Valuation of warrants issued in connection with debt	19,800	—	—
Deferred rent	(13,315)	(9,029)	9,979
Restructuring charges	—	—	86,454
Write-down of patents and other assets	—	—	4,649
Changes in non-cash working capital items:			
Accounts receivable	(99,412)	88,639	(133,051)
Prepaid expenses and other	112,858	(223,057)	55,072
Accounts payable and accrued expenses	(205,284)	279,482	41,207
Deferred revenue	128,510	87,634	64,991
Foreign currency translation adjustment	102,236	—	—
Cash used in operating activities	(5,787,480)	(4,959,618)	(4,983,072)
INVESTING ACTIVITIES			
Sale of short-term investments	—	—	2,804,468
(Purchase) disposal of capital assets	(59,618)	19,561	(52,395)
Increase in patents and other assets	(280,499)	(408,715)	(288,651)
Cash (used in) provided by investing activities	(340,117)	(389,154)	2,463,422
FINANCING ACTIVITIES			
Payments on obligations under capital leases	(20,642)	(27,475)	(51,574)
Payment of loan to executive	—	—	(65,271)
Repayment of loan from executive	—	31,826	—
Repayment of receivable from stockholder	—	469,124	—
Proceeds from issuance of preferred stock, net of issuance costs	15,694,176	—	—
Proceeds from issuance of special warrants, net of issuance costs	—	3,421,936	1,279,813
Proceeds from issuance of common shares, net of issuance costs	—	698,793	4,623
Cash provided by financing activities	15,673,534	4,594,204	1,167,591
Net cash provided (used) in discontinued operations	3,039,065	(183,088)	(556,167)
Increase (decrease) in cash and cash equivalents	12,585,002	(937,656)	(1,908,226)
Cash and cash equivalents, beginning of period	875,444	1,813,100	3,721,326
Cash and cash equivalents, end of period	$ 13,460,446	$ 875,444	$ 1,813,100

See accompanying notes

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. NATURE OF BUSINESS AND BASIS OF PRESENTATION

Genetronics Biomedical Corporation (the "Company") was incorporated on August 8, 1979 under the laws of British Columbia. The Company carries out its business through its United States wholly-owned subsidiary, Genetronics, Inc., that was incorporated in California on June 29, 1983. The Company is developing drug delivery systems which are designed to use electroporation to enhance drug or gene delivery in the areas of oncology, dermatology, gene therapy, cardiology and transdermal drug delivery.

The Company incurred a net loss of $22,875,437 for the year ended December 31, 2003, has working capital of $12,593,153 and has an accumulated deficit of $76,201,984 at December 31, 2003. The ability of the Company to continue as a going concern is dependent upon its ability to achieve profitable operations and to obtain additional capital. In January 2003, the Company completed the sale of substantially all of the properties and assets that are primarily used in its BTX Division to a third party for a purchase price of $3,700,000 in cash. On July 16, 2003, the Company announced it had raised an aggregate of $15,670,000 through the sale of $8,170,000 of its Series A Cumulative Convertible Preferred Stock and $7,500,000 of its Series B Cumulative Convertible Preferred Stock, to institutional and accredited investors. Proceeds from the sale of Series A Cumulative Convertible Preferred Stock were received on July 16, 2003. Proceeds of $7,500,000 from the sale of Series B Cumulative Convertible Preferred Stock were payable upon achievement of certain milestones, which the Company achieved in October 2003. (See Note 10) Including the cash proceeds received from the July 2003 financing, the exercises of employee stock options and investor warrants, and the sale of the BTX Division, we believe we have sufficient funds to fund operations through April 2005. The Company will continue to rely on outside sources of financing to meet its capital needs beyond next year. The outcome of these matters cannot be predicted at this time. Further, there can be no assurance, assuming the Company successfully raises additional funds, that the Company will achieve positive cash flow. If the Company is not able to secure additional funding, it will be required to further scale back its research and development programs, preclinical studies and clinical trials, and general, and administrative activities and may not be able to continue in business. These consolidated financial statements do not include any adjustments to the specific amounts and classifications of assets and liabilities, which might be necessary should the Company be unable to continue in business. The Company's consolidated financial statements for the year ended December 31, 2003 have been prepared on a going concern basis, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business for the foreseeable future.

On June 15, 2001, the Company completed a change in its jurisdiction of incorporation from British Columbia, Canada into the state of Delaware. The change was accomplished through a continuation of Genetronics Biomedical Ltd., a British Columbia Corporation, into Genetronics Biomedical Corporation, a Delaware corporation. Concurrent with the continuation of the Company in Delaware, the stockholders authorized for issuance 100,000,000 common shares with a $0.001 par value. The Company also changed its fiscal year end from March 31 to December 31 effective with the fiscal year ended December 31, 2001. For comparability purposes, the following financial data is provided for the twelve months ended December 31, 2002 compared to the twelve months ended December 31, 2001.

Twelve months December 31, 2002 compared to December 31, 2001

Fiscal periods ended	Twelve months ended December 31, 2002	Twelve months ended December 31, 2001 (Unaudited)
License fee and milestone payments(1)	**$ 5,883**	$ 3,471,571
Revenues under collaborative research and development arrangements	**183,638**	254,932
Government grants	**—**	4,032
Total revenues	**189,521**	3,730,535
Research and development	**2,466,129**	3,709,370(2)
General and administrative	**3,658,307**	5,114,651(2)
Interest income	**(32,316)**	(202,446)
Interest expense	**5,445**	16,354
Foreign exchange loss	**—**	66,453
Total expenses	**6,097,565**	8,704,382
Net loss from continuing operations	**(5,908,044)**	(4,973,847)
Discontinued operations	**(56,783)**	(441,813)
Net Loss	**$ (5,964,827)**	$ (5,415,660)
Amount per common share – basic and diluted:		
Loss from continuing operations	**$ (0.15)**	$ (0.15)
Loss from discontinuing operations	**—**	(0.01)
Net loss	**$ (0.15)**	$ (0.16)

(1) During the quarter ended March 31, 2001, the Company changed its method of accounting for revenue recognition in accordance with Staff Accounting Bulletin No. 101, Revenue Recognition in Financial Statements. Effective April 1, 2000, the Company recorded the cumulative effect of the accounting change.

(2) Certain reclassifications have been made to conform to the December 31, 2002 presentation.

2. ACCOUNTING POLICIES

As a result of the continuation of the Company from British Columbia, Canada, to Delaware, these financial statements have been prepared in accordance with accounting principles generally accepted in the United States. A reconciliation of amounts presented in accordance with Canadian generally accepted accounting principles is detailed in Note 17. The following is a summary of significant accounting policies used in the preparation of these consolidated financial statements in accordance with GAAP-US.

Consolidation

These consolidated financial statements include the accounts of Genetronics Biomedical Corporation and its wholly-owned subsidiary, Genetronics, Inc., a company incorporated in the state of California. Effective May 2000, Genetronics Inc. closed the operations of its wholly owned subsidiary Genetronics SA, a company incorporated in France and subsequently sold its investment in Genetronics SA for nominal consideration to Geser SA, a company owned by the former General Manager of Genetronics SA. Significant intercompany accounts and transactions have been eliminated on consolidation.

Discontinued operations

The Company's Board of Directors has decided to focus the attention and resources of the Company on its Drug and Gene Delivery Division. In connection with this decision, the Company sold the assets of the BTX Instrument Division in January 2003 as noted in Note 1. Accordingly, the BTX Instrument Division, which was previously classified as a separate segment, has been classified as discontinued operations for financial reporting purposes.

Fiscal Periods ended	As of December 31, 2003	As of December 31, 2002
Accounts receivable, net	**$** —	$ 703,604
Inventory, net	—	765,754
Fixed assets, net	—	48,138
Assets of discontinued operations	**$** —	$ 1,517,496
Accounts payable	**$** —	$ 148,948
Accrued expenses	—	252,821
Liabilities of discontinued operations	**$** —	$ 401,769

Operating results of the Company's discontinued operations are shown separately in the accompanying consolidated statements of operations. The BTX Instruments Division had sales of $162,060, $3,500,557 and $3,017,747 for the year ended December 31, 2003, year ended December 31, 2002 and nine months ended December 31, 2001, respectively. These amounts are not included in sales in the consolidated statements of operations.

Use of estimates

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

Foreign currency translation

Through December 31, 2000, the functional currency of the Company was the Canadian dollar, while the reporting currency in the consolidated financial statements was the U.S. dollar. Effective January 1, 2001, due to a change in circumstances, the functional currency of the Company changed to the U.S. dollar. Accordingly, non-U.S. monetary assets and liabilities are translated into U.S. dollars at exchange rates in effect at the balance sheet date. Revenue and expenses are translated at the average exchange rate for the year. Gains or losses arising on this foreign currency translation are recorded in net loss.

Cash equivalents

The Company considers all highly liquid investments with maturities of 90 days or less, when purchased, to be cash equivalents. Cash equivalents are stated at cost, which approximates market value.

Fixed assets

Fixed assets are stated at cost and depreciated over the estimated useful lives of the assets (three to seven years) using the straight-line method. Leasehold improvements and equipment under capital leases are being depreciated over the shorter of the estimated useful lives of the assets or the term of the lease. Amortization of leased assets is included in depreciation and amortization.

Patent and license costs

Patents are recorded at cost and amortized using the straight-line method over the expected useful lives of the patents or 17 years, whichever is less. Cost is comprised of the consideration paid for patents and related legal costs. If management determines that development of products to which patent costs relate is not reasonably certain or that costs exceed recoverable value, such costs are charged to operations. As of December 31, 2003, the Company expects amortization on intangible assets over the next five years of approximately $350,000 per year.

License costs are recorded based on the fair value of consideration paid and amortized using the straight-line method over the expected useful life of the underlying patents.

Long-Lived Assets

The Company reviews long-lived assets, including intangible assets, for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

In August 2001, the FASB issued Statement No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets* (SFAS 144), which the Company adopted on January 1, 2002. This Statement establishes a number of rules for the recognition, measurement and display of long-lived assets which are impaired and either held for sale or continuing use within the business. In addition, the statement broadly expands the definition of a discontinued

operation to individual reporting units or asset groupings for which identifiable cash flows exist. In accordance with SFAS 144, the assets and liabilities of the BTX Instrument Division have been presented as discontinued operations.

While the Company's current and historical operating and cash flow losses are indicators of impairment, the Company believes the future discounted cash flows to be received from the long-lived assets will exceed the assets carrying value, and accordingly, the Company has not recognized any impairment losses through December 31, 2003.

Income taxes

The Company accounts for income taxes using the liability method of tax allocation. Future income taxes are recognized for the future income tax consequences attributable to differences between the carrying values of assets and liabilities and their respective income tax bases. Future income tax assets and liabilities are measured using enacted income tax rates expected to apply to taxable income in the years in which temporary differences are expected to be recovered or settled. The effect on future income tax assets and liabilities of a change in rates is included in earnings in the period that includes the enactment date. Future income tax assets are recorded in the consolidated financial statements if realization is considered more likely than not.

Government grants

The Company receives non-refundable grants under available government programs. Government grants towards current expenditures are recorded as revenue when there is reasonable assurance that the Company has complied with all conditions necessary to receive the grants, collectibility is reasonably assured, and as the expenditures are incurred.

Revenue recognition

The Company has adopted a strategy of co-developing or licensing its gene delivery technology for specific genes or specific medical indications. Accordingly, the Company has entered into collaborative research and development agreements and has received funding for pre-clinical research and clinical trials. Payments under these agreements, which are non-refundable, are recorded as revenue as the related research expenditures are incurred pursuant to the terms of the agreement and provided collectibility is reasonably assured.

License fees comprise initial fees and milestone payments derived from collaborative licensing arrangements. Non-refundable milestone payments continue to be recognized upon (i) the achievement of specified milestones when the Company has earned the milestone payment, (ii) the milestone payment is substantive in nature and the achievement of the milestone was not reasonably assured at the inception of the agreement. The Company defers payments for milestone events which are reasonably assured and recognizes them ratably over the minimum remaining period of the Company's performance obligations. Payments for milestones, which are not reasonably assured are treated as the culmination of a separate earnings process and are recognized as revenue when the milestones are achieved.

Net loss per share

Net loss per share is calculated in accordance with FASB statement No. 128, *Earnings per share* . Basic loss per share is computed by dividing the net loss for the year by the weighted average number of common shares outstanding during the year. Diluted loss per share is calculated in accordance with the treasury stock method and reflects the potential dilution that would occur if securities or other contracts to issue common stock were exercised or converted to common stock. Since the effect of the assumed exercise of common stock options and other

convertible securities was anti-dilutive for all periods presented, basic and diluted loss per share are the same.

The following table summarizes potential common shares that were excluded from historical basic and diluted earnings per share because of their anti-diluting effect:

Common stock equivalents	At December 31, 2003	At December 31, 2002	At December 31, 2001
Options to purchase common stock	7,237,513	6,904,400	5,770,925
Warrants to purchase common stock	12,592,310	5,344,225	1,721,249
Convertible preferred stock	13,092,874	—	—
Total	32,922,697	12,248,625	7,492,174

Leases

Leases have been classified as either capital or operating leases. Leases which transfer substantially all of the benefits and risks incidental to the ownership of assets are accounted for as if there was an acquisition of an asset and incurrence of an obligation at the inception of the lease. All other leases are accounted for as operating leases wherein rental payments are expensed as incurred with the exception of the facility lease.

Stock-based compensation

The Company follows Accounting Principles Board Opinion No. 25, *Accounting for Stock Issued to Employees* (APB25) and related interpretations, in accounting for its employee stock options. Under APB25, because the exercise price of the Company's options for common shares granted to employees is not less than the fair market value of the underlying stock on the date of grant, no compensation expense has been recognized. Options awarded to non-employees, including consultants, are recorded at their fair values using the Black Scholes option pricing model based on the vesting terms of the options. The Company has also adopted the disclosure-only alternative of FASB Statement No.123, *Accounting for Stock-Based Compensation* (SFAS 123).

Pro forma information regarding net income and earnings per share is required by SFAS 123, which also requires that the information be determined as if the Company has accounted for its employee stock options granted under the fair value method of that statement. The fair value for these options was estimated at the date of grant using a Black-Scholes pricing model with the following weighted average assumptions for the year ended December 31, 2003: risk free interest rate of 4.25% [year ended December 31, 2002 – 3.88%; nine months ended December 31, 2001— 4.9%]; dividend yield of 0%; volatility factor of the expected market price of the Company's common stock of 1.23 [year ended December 31, 2002 — 1.43; nine months ended December 31, 2001 — 1.25]; and a weighted average expected life of the options of 9 years [year ended December 31, 2002 — 9 years; nine months ended December 31, 2001 — 9 years].

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

The weighted-average fair value of options granted during the year ended December 31, 2003, which were granted at fair market value on the date of grant was $ 0.63 [year ended December 31, 2002 — $0.35; nine months ended December 31, 2001 - $0.80].

Supplemental disclosure of pro forma loss and loss per common share is as follows:

	Year ended December 31, 2003	Year ended December 31, 2002	Nine months ended December 31, 2001
Net loss attributable to common stockholders as reported	$ (22,875,437)	$ (5,964,827)	$ (6,361,942)
Add: Stock-based employee compensation expense included in net loss	—	—	—
Deduct: Stock-based employee compensation expense determined under fair value methods for all awards	(818,951)	(586,333)	(673,928)
Pro forma net loss attributable to common stockholders	$ (23,694,388)	$ (6,551,160)	$ (7,035,870)
Basic and diluted net loss per share as reported	$ (0.43)	$ (0.15)	$ (0.19)
Basic and diluted pro forma net loss per share	$ (0.44)	$ (0.16)	$ (0.21)

Recent accounting pronouncement

In January 2003, the FASB issued FASB Interpretation No. 46 ("FIN 46"), *Consolidation of Variable Interest Entities* . FIN 46 requires a variable interest entity to be consolidated by a company if that company is subject to a majority of the risk of loss from the variable interest entity's activities or entitled to receive a majority of the entity's residual returns or both. A variable interest entity either (a) does not have equity investors with voting rights or (b) has equity investors that do not provide sufficient financial resources to the entity to support its activities. FIN 46 is effective immediately for all new variable interest entities created or acquired after January 31, 2003. For variable interest entities created or acquired prior to February 1, 2003, the provisions of FIN 46 must be applied for the first interim or annual period ending after December 15, 2003 if certain defined conditions are met. The adoption of FIN 46 did not have a material impact on our financial statements.

In May 2003, the FASB issued SFAS No. 150, "Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity." SFAS No. 150 requires that certain financial instruments, which under previous guidance were accounted for as equity, must now be accounted for as liabilities. The financial instruments affected include mandatorily redeemable stock, certain financial instruments that require or may require the issuer to buy back some of its shares in exchange for cash or other assets and certain obligations that can be settled with shares of stock. SFAS No. 150 is effective for all financial instruments entered into or modified after May 31, 2003 and must be applied to the Company's existing financial instruments effective August 1, 2003, the beginning of the first fiscal period after June 15, 2003. The adoption of SFAS No. 150 did not have a material effect on our financial position or results of operations.

3. FINANCIAL INSTRUMENTS

For certain of the Company's financial instruments including cash equivalents, accounts receivable, accounts payable and accrued expenses the carrying values approximate fair value due to their short term nature. The obligations under capital lease bear interest rates, which in management's opinion approximate the current interest rate at which the Company could borrow and therefore approximate fair value.

4. CHANGE IN ACCOUNTING PRINCIPLE

During the fourth quarter ended March 31, 2001, the Company changed its accounting policy for upfront non-refundable license payments received in connection with collaborative license arrangements in accordance with Staff Accounting Bulletin No. 101 (SAB 101), as amended by SAB 101(A) and (B), issued by the U. S. Securities and Exchange Commission.

The Company had received cumulative up-front payments of approximately $4,000,000 through April 1,

2000. In accordance with SAB 101, the Company is required to record these fees over the life of the arrangement, which was terminated in the year ended March 31, 2001 (See Note 6). As a result of this change, revenues in the year ended March 31, 2001 have increased by $3,647,059 and the cumulative effect of this change in accounting principle is a charge of $3,647,059 in the year ended March 31, 2001.

5. CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS

At December 31, 2003, cash equivalents included approximately $12,722,653 of commercial paper with an average interest rate of 1.15%. At December 31, 2002, cash equivalents included approximately $465,000 of commercial paper and term deposits with an average interest rate of 1.09%.

6. MAJOR CUSTOMERS AND CONCENTRATION OF CREDIT RISK

In November 2001, the Company entered into a non-exclusive license with Valentis, Inc. to use its MedPulser® System in the development of its Genemedicine™ products. The Company received an upfront payment in the first quarter of 2002 which is recorded as revenue ratably over the term of the agreement and will receive payments upon the achievements of specified milestones in the form of cash and stock of Valentis as well as a supply agreement between the two companies. The agreement expires in 2018. During 2003 and 2002, we recorded revenue under this agreement of $5,882 and $5,883, respectively.

7. FIXED ASSETS

	Cost	Accumulated depreciation and amortization	Net book value
As at December 31, 2003			
Machinery, equipment and office furniture	$ 1,580,776	$ 1,412,976	$ 167,800
Leasehold improvements	435,304	432,298	3,006
Equipment under capital leases	119,671	114,575	5,096
	$ 2,135,751	$ 1,959,849	$ 175,902
As at December 31, 2002			
Machinery, equipment and office furniture	$ 1,525,062	$ 1,259,433	$ 265,629
Leasehold improvements	435,304	416,380	18,924
Equipment under capital leases	119,671	108,903	10,768
	$ 2,080,037	$ 1,784,716	$ 295,321

8. PATENTS AND OTHER ASSETS

	December 31, 2003	December 31, 2002
Patent costs, net	$ 1,727,660	$ 1,718,807
License costs, net	525,263	637,723
Other	48,193	69,462
	$ 2,301,116	$ 2,425,992

Patent accumulated amortization was $1,160,500 as of December 31, 2003 [December 31, 2002 — $867,204]. License accumulated amortization was $375,188 at December 31, 2003 [December 31, 2002 — $262,727].

We have two primary groups of patents (Group 1 and Group 2), which are being amortized over a period of 8 years and 17 years, respectively. The patent balance, net of accumulated amortization, of Group 1 totaled $1,311,807 at December 31, 2003 [December 31, 2002 — $1,255,022]. The patent balance, net of accumulated amortization, of Group 2 totaled $415,853 at December 31, 2003 [December 31, 2002 — $463,785]. License costs, net of accumulated amortization, totaled $525,263 at December 31, 2003 [December 31, 2002 — $637,723] and are

being amortized over a period of 8 years.

9. ACCOUNTS PAYABLE AND ACCRUED EXPENSES

	December 31, 2003	December 31, 2002
Trade accounts payable	$ 293,630	$ 642,964
Accrued compensation	335,519	167,961
Accrued legal	28,113	20,000
Accrued clinical	40,568	40,568
Accrued expenses	129,825	161,446
	$ 827,655	$ 1,032,939

10. STOCKHOLDERS' EQUITY

As a result of the our continuation into Delaware [*note 1*] on June 15, 2001, the Company changed its no par value common shares to $0.001 par value common shares. The stockholders' equity for all periods presented has been reclassified to conform to this presentation.

On July 16, 2003 we closed a preferred share private placement and raised an aggregate of $15,670,000, through the sale of $8,170,000 of our Series A Cumulative Convertible Preferred Stock and $7,500,000 of our Series B Cumulative Convertible Preferred Stock, to institutional and accredited investors. Each holder of Preferred Stock shall be entitled to the number of votes equal to the number of shares of Common Stock into which such shares of Preferred Stock could be converted on the record date for the taking of a vote. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company before any distribution of assets of the Company shall be made to or set apart for the holders of Common Stock, the holders of Preferred Stock shall be entitled to receive payment out of such assets of the Company in an amount equal to $10,000 per share of Preferred Stock plus any accumulated and unpaid dividends. The Series A Preferred Stock is convertible into our common stock at a conversion price of $0.60 per share, and there is no escrow provision. In connection with the sale of the Series A Preferred Stock, the Company recorded a one-time imputed dividend charge of $6,045,799 related to the beneficial conversion feature of the stock. The Series B Preferred Stock is convertible into our common stock at a conversion price of $0.70 per share, and the proceeds from the sale of the Series B Preferred Stock will remain in escrow to be released to us upon the achievement of specific milestones. In October 2003, the Company achieved these milestones and the $7,500,000 was released from escrow. In connection with the release of Series B Preferred Stock proceeds, the Company recorded a one-time inputed dividend charge of $11,807,144. Upon conversion, Preferred Stock will convert into 24,330,953 shares of our common stock. As of December 31, 2003, 720 shares of Series A and Series B Preferred Stock converted into 11,238,079 shares of out common stock. We will pay the holders of Series A and Series B Preferred Stock an annual dividend rate of 6%, in shares of common stock or cash payable quarterly, and each holder received 40% warrant coverage at an exercise price of $0.75 per share exercisable through July 13, 2008. Warrants granted to holders of our Preferred Stock entitle these investors the right to acquire 9,732,381 shares of our common stock. On September 30, 2003 and December 31, 2003, our Board of Directors declared dividends to the holders of our Preferred Stock which were paid in our common stock. A total of 204,507 and 133,873 common shares valued at $202,484 and $155,103 were issued on September 30, 2003 and December 31, 2003, respectively. The placement agents for the Series A and B Preferred Stock were also granted warrants entitling the agents to acquire 1,944,428 shares of our common stock. Each placement agent's warrant entitles the holder to acquire one share of common stock at a price between $0.60 and $0.75 per share, exercisable through July 13, 2008. Through December 31, 2003, we have incurred a total of $1,058,864 in expenses related to this offering. As of December 31, 2003, total warrants exercised were 133,333 resulting in $100,000 in gross proceeds.

On September 15, 2000, we entered into an exclusive license agreement with the University of South Florida Research Foundation, Inc. ("USF"), whereby USF granted the Company an exclusive, worldwide license to USF's rights in patents and patent applications generally related to needle electrodes ("License Agreement"). These electrodes were jointly developed by the Company and USF. Pursuant to the License Agreement, the Company granted USF and its designees warrants to acquire 600,000 common shares for $2.25 per share until September 14, 2010. Of the total warrants granted, 300,000 vest at the date of grant and the remainder will vest upon the

achievement of certain milestones. The 300,000 non-forfeitable vested warrants were valued at $553,950 using the Black-Scholes pricing model and were recorded as other assets with a credit to additional paid in capital. The remaining 300,000 warrants are forfeitable and will be valued at the fair value on the date of vesting using the Black-Scholes pricing model.

In addition, pursuant to the above License Agreement, the Company issued a total of 150,000 common shares with a fair market value of $346,500 to USF and its designees for no additional consideration. The fair market value of the common shares on September 15, 2000 was recorded as other assets and a credit to common stock and additional paid-in capital.

Special Warrants

On June 6, 2002, we closed a private placement of 10,225,891 special warrants. 7,985,574 special warrants were issued at a subscription price of $0.42 per special warrant and 2,240,317 special warrants were issued at a subscription price of $0.47 per special warrant, for gross proceeds of $4,406,890. Each $0.42 special warrant is exercisable, without additional payment, into one share of common stock and a warrant for the purchase of one-third of one share of common stock. Each full common stock purchase warrant is exercisable at $0.70. Total warrants at $0.70 are 2,661,851. Each $0.47 special warrant is exercisable, without additional payment, into one share of common stock and a warrant for the purchase of forty percent of one share of common stock Each full common stock purchase warrant is exercisable $0.65. The gross proceeds of this financing were reduced by issuance costs including the placement agent's commission of 6.0% of the gross proceeds of $264,413 and other issue costs of $306,708. In October 2002, these special warrants were converted into 10,225,891 shares of common stock and 3,557,976 common stock purchaser warrants. On June 9, 2003, our Board of Directors approved an extension of the expiration date from June 6, 2003 until July 7, 2003 for the exercise of each of the $0.65 warrants and the $0.70 warrants that were issued in June 2002. Warrants were exercised for 779,093 shares resulting in gross proceeds of $539,803. All remaining warrants expired on July 7, 2003.

In connection with the issuance of the special warrants described in the proceeding paragraph, the Company granted warrants to the placement agent to acquire 665,000 shares of common stock for $0.47 per share. In September 2003, warrants to purchase 120,000 shares of common stock were exercised totaling $56,400 in gross proceeds. These warrants expire on June 6, 2005.

Warrants

On January 21, 2003, the Company entered into a $1,000,000 bridge loan with a major shareholder. Warrants to purchase 60,000 shares of the Company's common stock at $.01 per share were granted in lieu of interest being charged to the loan. The warrants expire in January 2005. The warrants were valued at $19,800 using a fair value model and were charged to interest expense. In February 2003, the bridge loan was paid in full with proceeds from the sale of the BTX Division.

Stock options

The Company has three stock option plans pursuant to which stock options are granted to executive officers, directors, employees and consultants.

The 1995 stock option plan (the "1995 Plan") was approved by the stockholders in 1995 and subsequently amended in 1997. The 1995 Plan was suspended by the Board of Directors in June 1997 and no further options will be granted pursuant to this plan. As at December 31, 2003, there were 190,500 options outstanding pursuant to the 1995 Plan.

The 1997 stock option plan (the "1997 Plan"), as amended in 1999, was approved by the stockholders in July 1999. The 1997 Plan was suspended by the Board of Directors in July 2000 and no further options will be granted pursuant to this plan. As at December 31, 2003, there were 531,950 options outstanding pursuant to the 1997 Plan.

The 2000 Stock Option Plan (the "2000 Plan"), effective July 31, 2000, was approved by the stockholders on August 7, 2000, pursuant to which 7,400,000 common shares are reserved for issuance to executive officers,

directors, employees and consultants of the Company. In April 2002, the annual meeting of stockholder approved to amend the 2000 plan to increase the maximum number of common shares reserved for issues to 10,000,000. The 2000 Plan supercedes all previous stock option plans. At December 31, 2003, 1,098,413 options are available for future grants and 6,515,063 stock options are outstanding pursuant to the 2000 Plan. The options available for issuance under the 2000 Plan generally have a term of ten years and vest over a period of three years. The Plan will terminate on July 30, 2010.

The Company accounts for options granted to non-employees in accordance with EITF 96-18 and FAS 123. The fair value of these options at the measurement dates was estimated using the Black-Scholes pricing model.

In January 2002, the Company extended the expiration date of 624,200 consultant stock options from January 15, 2002 to January 31, 2002 and reduced the exercise price from between Cdn $1.25 and Cdn $4.13 to Cdn $1.15. On January 21, 2002, the Company issued 499,199 common shares in respect of the exercise of these stock options for gross proceeds of Cdn $574,079 (US $361,287). As a result, additional stock-based compensation was recorded in January 2002 of $39,936 at a fair value of $0.08 per option which was estimated by using the Black Scholes Pricing Model. The remaining 125,001 stock options expired.

Total stock-based compensation for options granted to non-employees for the year ended December 31, 2003, the year ended December 31, 2002 and the nine months ended December 31, 2001 was $170,959, $105,413 and 160,594, respectively.

The following table summarizes the stock options outstanding at December 31, 2003:

	Options outstanding			Options exercisable	
Range of exercise prices $	Number of options outstanding #	Weighted average remaining contractual life (years)	Weighted average exercise price $	Number of options exercisable #	Weighted average exercise price $
0.01 – 0.25	435,000	8.80	0.25	273,750	0.25
0.26 – 0.50	2,765,000	8.54	0.38	1,296,667	0.40
0.51 – 1.00	2,386,563	8.90	0.61	1,492,573	0.60
1.01 – 1.50	817,500	7.44	1.27	516,250	1.29
1.51 – 2.00	200,500	5.16	1.65	199,250	1.65
2.01 – 2.50	156,500	4.61	2.19	156,500	2.19
2.51 – 3.00	346,950	1.78	2.80	346,950	2.80
3.01 – 5.50	129,500	5.69	4.34	129,500	4.34
	7,237,513	6.37	0.81	4,411,440	0.99

Stock option transactions for the periods and the number of stock options outstanding are summarized as follows:

	No. of common shares issuable	Weighted average exercise price
Balance, March 31, 2001	5,459,700	$ 2.36
Options granted	2,114,000	0.84
Options exercised	(4,250)	1.09
Options forfeited	(1,798,525)	2.11
Balance, December 31, 2001	5,770,925	1.88
Options granted	3,721,200	0.46
Options exercised	(499,199)	0.72
Options forfeited	(2,088,526)	2.13
Balance, December 31, 2002	6,904,400	1.12
Options granted	**2,786,563**	**0.63**
Options exercised	**(518,125)**	**0.72**
Options forfeited	**(1,935,325)**	**1.46**
Balance, December 31, 2003	**7,237,513**	**$ 0.68**

Stockholder Rights Plan

In 2003, the stockholders approved a five year extension of a Stockholder Rights Plan (the "Rights Plan") to protect the Company's stockholders from unfair, abusive or coercive take-over strategies. Under the Rights Plan, holders of common shares are entitled to one share purchase right ("Right") for each common share held. If any person or group makes a take-over bid, other than a bid permitted under the plan or acquires 20% or more of the Company's outstanding common shares without complying with the Rights Plan, each Right entitles the registered holder thereof to purchase, in effect, $20 equivalent of common shares of the Company at 50% of the prevailing market price.

11. COMMITMENTS

	Year ended December 31, 2003	Year ended December 31, 2002	Nine months ended March 31, 2001
Rent Expense	**$ 450,799**	$ 472,518	$ 376,268

At December 31, 2003, future minimum lease payments under non-cancelable operating leases are as follows:

	Operating leases
2004	$ 419,126
2005	35,454
2006	26,712
2007 and thereafter	—
	$ 481,292

The Company does not have any active leases under capital lease arrangements.

Pursuant to the USF license agreement entered into during the nine months ended December 31, 2001 [note 10], the Company is responsible for payment of royalties, based on a percentage of revenue from the licensed product. As of December 31, 2003 and 2002, no royalties were payable.

12. INCOME TAXES

At December 31, 2003, we have U.S. federal and California income tax net operating loss carryforwards of approximately $50,539,000 and $21,330,000, respectively. The federal loss carryforwards will begin to expire in 2006 unless previously utilized. The California loss carryforwards will continue to expire in 2004. The difference between the U.S. federal and California tax loss carryforwards is primarily attributable to the capitalization of research and development expenses for California income tax purposes and the 50% to 60% limitation of California loss carryforwards. In addition, we have U.S. federal and California research tax credit carryforwards of approximately $1,166,000, which will continue to expire in 2004, unless previously utilized and California research credits of approximately $610,000, which will carryover indefinitely.

Pursuant to Internal Revenue Code Sections 382 and 383, annual use of the subsidiary's net operating loss and credit carryforwards may be limited because of a cumulative change in ownership of more than 50%.

Significant components of the Company's deferred tax assets as of December 31, 2003 and 2002 are shown below:

	December 31, 2003	December 31, 2002
Deferred tax assets:		
Capitalized research expense	**$ 791,000**	$ 911,000
Net operating loss carryforwards	**18,915,000**	16,829,000
Research and development and other tax credits	**1,592,000**	1,406,000
Other	**413,000**	492,000
Total deferred tax assets	**21,711,000**	19,638,000
Valuation allowance	**(21,363,000)**	(19,181,000)
Total deferred tax assets	**348,000**	457,000
Deferred tax liabilities:		
Difference between book and tax basis For patent and license costs	**(348,000)**	(457,000)
Total deferred tax liabilities	**$ (348,000)**	$ (457,000)
Net deferred tax assets	**$ —**	$ —

The potential income tax benefits relating to the future tax assets have been recognized in the accounts to the extent their realization meets the requirements of “more likely than not” under the liability method of tax allocation.

The reconciliation of income tax attributable to operations computed at the statutory tax rates to income tax expense (recovery), using a 35% statutory tax rate, is:

	At December 31, 2003	At December 31, 2002	At December 31, 2001
Income taxes at statutory rates	**$ (2,306,000)**	$ (2,088,000)	$ (2,226,000)
State income tax, net of federal benefit	**(245,000)**	(225,000)	(366,000)
Change in valuation allowance	**2,181,194**	2,272,000	3,565,000
Other	**369,806**	41,000	(973,000)
	$ —	$ —	$ —

13. PENSION PLAN

In 1995, the U.S. subsidiary adopted a 401 (k) Profit Sharing Plan covering substantially all of its employees in the United States. The defined contribution plan allows the employees to contribute a percentage of their compensation each year. The Company currently matches 50% of the employees contribution, up to 6% of annual compensation which is recorded as expense in the accompanying consolidated statements of loss as incurred. The Company’s contributions are invested in common shares of the Company which are included in the calculation of loss per common share for the years presented. The pension expense for the year ended December 31, 2003 was $28,699 [year ended December 31, 2002 — $62,721; nine months ended December 31, 2001 — $63,963].

14. SEGMENT INFORMATION

The Company’s reportable business segments have historically included the BTX Instrument Division and the Drug and Gene Delivery Division. In connection with the sale of assets of the BTX Instrument Division on January 31, 2003. the BTX Instrument Division, which was previously classified as a separate segment, has been

classified as discontinued operations for financial reporting purposes. The Company no longer has reportable separate business segments.

15. RELATED PARTY TRANSACTIONS

The Company made payments to related parties as follows:

- Legal services provided by a law firm where one of the partners is a director of the Company as disclosed in the following table:

- Accounting and administrative services provided by a company where the principal is a director of the Company as disclosed in the following table:

	Year ended December 31, 2003	Year ended December 31, 2002	Nine months ended March 31, 2001
Legal services	**$ 170,599**	$ 337,150	$ 272,034
Accounting and administration	**$ —**	$ —	$ 588

Included in accounts payable and accrued expenses are the following amounts owed to the parties identified above which are payable under normal trade terms:

	At December 31, 2003	At December 31, 2002
Legal services	**$ 8,587**	$ 56,752

Total expenses paid to the parties identified above and included in share issue costs for the year ended December 31, 2003 were $68,219 [year ended December 31, 2002 — $221,585; nine months ended December 31, 2001 — $106,585]. All transactions are recorded at their exchange amounts.

16. SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION

	Year ended December 31, 2003	Year ended March 31, 2002	Nine months ended March 31, 2001
Interest paid during the year	**$ 20,480**	$ 5,445	$ 10,742

Supplemental schedule of financing activities:

	At December 31, 2003	At December 31, 2002	At December 31, 2001
Imputed dividends on preferred stock	**$ (17,852,943)**	$ —	$ —
Common stock issued in connection with declared dividends, on preferred stock	**$ 357,587**	$ —	$ —

During the year ended December 31, 2002, the Company issued common shares pursuant to a consulting agreement [note 10] aggregating $55,000.

17. GENERALLY ACCEPTED ACCOUNTING PRINCIPLES IN CANADA

The Company prepares its consolidated financial statements in accordance with accounting principles generally accepted in the United States (“U.S. GAAP”). In addition, the Company provides supplementary

descriptions of significant differences between U.S. GAAP and those in Canada ("Canadian GAAP") as follows:

[a] Under Canadian GAAP, the Company grants stock options to executive officers, directors, employees and consultants pursuant to stock option plans as described in note 10. No compensation is recognized for these plans when common shares or stock options are issued. Any consideration received on exercise of stock options or the purchase of stock is credited to share capital. If common shares are repurchased, the excess or deficiency of the consideration paid over the carrying amount of the common shares canceled is charged or credited to additional paid in capital or retained earnings. Under U.S. GAAP, options granted to non-employees such as consultants are fair valued. In addition, options modified to accelerate vesting provisions are subject to remeasurement at the date of modification. Under Canadian GAAP, the Company does not fair value options granted to non-employees or record expense for options subject to accelerated vesting.

[b] Under Canadian GAAP, the effect of the change in accounting principle described in note 4 is applied retroactively and all prior periods are restated.

[c] Under Canadian GAAP, investments are carried at the lower of cost or market. Unrealized gains are not recognized in the financial statements.

The impact of significant variations between U.S. GAAP and Canadian GAAP on the Consolidated Statements of Loss are as follows:

	Year ended December 31, 2003	Year ended December 31, 2002	Nine months ended March 31, 2001
Net loss for the period, U.S. GAAP	**$ (22,875,437)**	$ (5,964,827)	$ (6,359,790)
Adjustment for stock based compensation and imputed dividends	**18,039,571**	105,413	160,594
Net loss for the period, Canadian GAAP	**$ (4,835,866)**	$ (5,859,414)	$ (6,199,196)
Net loss per common share Canadian GAAP- basic and diluted	**$ (0.09)**	$ (0.14)	$ (0.18)
Weighted average number of common shares, Canadian GAAP	**53,266,494**	40,592,831	33,759,404

The impact of significant variations to Canadian GAAP on the Consolidated Balance Sheet items are as follows:

	December 31, 2003	December 31, 2002
Additional paid in capital	**$ 70,117,227**	$ 54,108,063
Other accumulated comprehensive loss/ cumulative translation adjustment	**$ —**	$ (102,238)
Accumulated deficit	**$ (55,133,274)**	$ (50,297,408)

18. QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

The following financial information reflects all normal recurring adjustments which are, in the opinion of management, necessary for a fair statement of the results of the interim periods. Summarized unaudited quarterly data for the year ended December 31, 2003 and the year ended December 31, 2002 are as follows:

	Three month period ended Dec. 31, 2003	Three month period ended Sept. 30, 2003	Three month period ended June 30, 2003	Three month period ended March 31, 2003
OPERATING DATA				
Revenue				
License fee and milestone payments	$ 1,469	$ 1,471	$ 1,471	$ 1,471
Revenues under collaborative research and development arrangements	36,608	20,840	7,533	9,666
Total	38,077	22,311	9,004	11,137
Loss from continuing operations	(1,765,404)	(1,680,313)	(1,397,238)	(1,745,290)
Gain on disposal of assets	—	—	—	2,034,078
Loss from discontinued operations	—	—	—	(110,740)
Net loss	(1,765,404)	(1,680,313)	(1,397,238)	178,048
Imputed and declared dividends on preferred stock	(11,962,269)	(6,248,261)	—	—
Net loss attributable to common stockholders	$ (13,727,673)	$ (7,928,574)	$ (1,397,238)	$ 178,048
Amounts per common share - basic and diluted				
Loss from continued operations	$ (0.03)	$ (0.03)	$ (0.03)	$ (0.03)
Discontinued operations, net of gain	—	—	—	0.03
Imputed and declared dividends on preferred stock	(0.20)	(0.12)	—	—
Net loss attributable to common stockholders	$ (0.23)	$ (0.15)	$ (0.03)	$ —
Weighted average number of common shares				
-Basic	60,488,031	51,581,301	50,497,772	50,406,608
-Diluted	60,488,031	51,581,301	50,497,772	50,632,087

	Three month period ended Dec. 31, 2002	Three month period ended Sept. 30, 2002	Three month period ended June 30, 2002	Three month period ended March 31, 2002
OPERATING DATA				
Revenue				
License fee and milestone payments	$ 1,471	$ 1,471	$ 1,471	$ 1,470
Revenues under collaborative research and development arrangements	74,722	66,416	39,500	3,000
Total	76,193	67,887	40,971	4,470
Loss from continuing operations	(1,439,307)	(1,461,610)	(1,513,690)	(1,493,437)
Income (loss) from discontinued operations	(135,492)	70,705	(23,617)	31,621
Net loss	$ (1,574,799)	$ (1,390,905)	$ (1,537,307)	$ (1,461,816)
Amounts per common share - basic and diluted				
Loss from continued operations	$ (0.03)	$ (0.04)	$ (0.04)	$ (0.04)
Loss from discontinued operations	—	—	—	—
Net loss	$ (0.03)	$ (0.04)	$ (0.04)	$ (0.04)
Weighted average number of common shares- basic and diluted	48,842,438	40,172,661	39,683,651	34,644,798

Exhibit 23.1

CONSENT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Registration Statements (Forms S-8 Nos. 333-100077, and 333-58168, Forms S-3 Nos. 333-111287, 333-108752, 333-91538 and 333-76738,) of Genetronics Biomedical Corporation, of our report dated March 10, 2004, with respect to the consolidated financial statements of Genetronics Biomedical Corporation included in the Annual Report (Form 10-K) for the year ended December 31, 2003.

/s/ ERNST & YOUNG LLP

San Diego, California
March 24, 2004

Exhibit 31.1

Certification of CEO Pursuant to
Securities Exchange Act Rules 13a-14(a) and 15d-14(a)
as Adopted Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002

I, Avtar Dhillon, the Chief Executive Officer of Genetronics Biomedical Corporation, certify that:

1. I have reviewed this annual report on Form 10-K for the year ended December 31, 2003 of Genetronics Biomedical Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and we have:
   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   c. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls.

Date: March 29, 2004

/s/ Avtar Dhillon
Avtar Dhillon,
President and Chief Executive Officer

Exhibit 31.2

Certification of CFO Pursuant to
Securities Exchange Act Rules 13a-14(a) and 15d-14(d)
as Adopted Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002

I, Peter Kies, the Chief Financial Officer of Genetronics Biomedical Corporation, certify that:

1. I have reviewed this annual report on Form 10-K for the year ended December 31, 2003 of Genetronics Biomedical Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and we have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   c. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls.

Date: March 29, 2004

/s/ Peter Kies
Peter Kies,
Chief Financial Officer

Exhibit 32

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Genetronics Biomedical Corporation (the "Company") on Form 10-K for the year ending December 31, 2003 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned, in the capacities and on the date indicated below, hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to his knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/S/ AVTAR DHILLON
Avtar Dhillon
President and Chief Executive Officer
(Principal Executive Officer)
March 29, 2004

/S/ PETER KIES
Peter Kies
Chief Financial Officer
(Principal Financial and Accounting Officer)
March 29, 2004

A SIGNED ORIGINAL OF THIS WRITTEN STATEMENT REQUIRED BY THE SECTION 906 HAS BEEN PROVIDED TO THE COMPANY AND WILL BE RETAINED BY THE COMPANY AND FURNISHED TO THE SECURITIES AND EXCHANGE COMMISSION OR ITS STAFF UPON REQUEST.