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SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2001

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 1-12830

BioTime, Inc.

(Exact name of registrant as specified in its charter)

California 94-3127919  
(State or other jurisdiction of (I.R.S. Employer  
incorporation or organization) Identification No.)

935 Pardee Street, Berkeley, California 94710  
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code (510) 845-9535

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

Common Shares, no par value  
(Title of Class)

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

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

The approximate aggregate market value of voting stock held by nonaffiliates of the registrant was \$31,118,452 as of March 25, 2002. Shares held by each executive officer and director and by each person who beneficially owns more than 5% of the outstanding Common Shares have been excluded in that such persons may under certain circumstances be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

11,627,316  
(Number of Common Shares outstanding as of March 7, 2002)  
Documents Incorporated by Reference  
None

PART I

Statements made in this Form 10-K that are not historical facts may constitute forward-looking statements that are subject to risks and uncertainties that could cause actual results to differ materially from those discussed. Words such as "expects," "may," "will," "anticipates," "intends," "plans," "believes," "seeks," "estimates," and similar expressions identify forward-looking statements. See "Risk Factors" and Note 1 to Financial Statements.

Item 1. Description of Business

Overview

BioTime, Inc. (the "Company" or "BioTime") is a development stage company engaged in the research and development of synthetic solutions that can be used as blood plasma volume expanders, blood replacement solutions during hypothermic (low temperature) surgery, and organ preservation solutions. Plasma volume expanders are used to treat blood loss in surgical or trauma patients until blood loss becomes so severe that a transfusion of packed red blood cells or other blood products is required. The Company is also developing a specially formulated hypothermic blood substitute solution that would have a similar function and would be used for the replacement of very large volumes of a patient's blood during cardiac surgery, neurosurgery and other surgeries that involve lowering the patient's body temperature to hypothermic levels.

The Company's first product, Hextend(R), is a physiologically balanced blood plasma volume expander, for the treatment of hypovolemia. Hypovolemia is a condition often associated with blood loss during surgery or from injury. Hextend maintains circulatory system fluid volume and oncotic pressure and keeps vital organs perfused during surgery. Hextend, approved for use in major surgery, is the only blood plasma volume expander that contains hetastarch, buffer, multiple electrolytes and glucose. Hextend is designed to compete with and to replace products such as albumin and other colloid solutions, as well as

crystalloid solutions, that have been used to maintain fluid volume and blood pressure during surgery. Hextend is also completely sterile to avoid risk of infection. Health insurance reimbursements and HMO coverage now include the cost of Hextend used in surgical procedures.

Hextend is being sold in the United States by Abbott Laboratories under an exclusive license from the Company. Abbott also has the right to sell Hextend in Canada, where an application for marketing approval is pending. Abbott also has a right to obtain licenses to manufacture and sell other BioTime products. See "Licensing" for more information about the license granted to Abbott Laboratories.

As part of the marketing program, a number of studies have been conducted that show the advantages of receiving Hextend and other BioTime products during surgery. For example, the results of a clinical trial by NJ Wilkes et al performed in England and entitled "The effects of balanced versus saline-based hetastarch and crystalloid solutions on acid-base and electrolyte status and gastric mucosal perfusion in elderly surgical patients" was published in the October 2001 edition of Anesthesia and Analgesia, and underscores a number of Hextend benefits including maintenance of normal acid-base balance, blood calcium and chloride levels and perfusion of portions of the gastro-intestinal tract. As future studies such as these are completed, the results will be presented at medical conferences and articles will be written for publication in medical journals. The Company is also aware of independent studies using Hextend that are being conducted which may be published in medical journals or reported

at medical conferences. The outcome of future medical studies and timing of the publication or presentation of the results could have an effect on Hextend sales.

Hextend has been approved, or being considered for approval, by hundreds of hospital formulary committees. Inclusion on hospital formularies is important because it enables physicians to obtain Hextend without the need to special order it. Obtaining formulary approval generally takes several months and often requires diligent efforts.

The Company is also developing two other blood volume replacement products, Pentalyte,(R) and HetaCool,™ that, like Hextend,(R) have been formulated to maintain the patient's tissue and organ function by sustaining the patient's fluid volume and physiological balance. Various colloid and crystalloid products are being marketed by other companies for use in maintaining patient fluid volume in surgery and trauma care, but those solutions do not contain the unique comprehensive combination of electrolytes, glucose, lactate and hydroxyethyl starch found in Hextend, Pentalyte, and HetaCool. The Company's products do not contain albumin. Albumin produced from human plasma is also currently used as a plasma expander, but it is expensive and subject to supply shortages.

Based upon the results of its clinical studies and laboratory research, the Company has determined that in many emergency care and surgical applications it is not necessary for a plasma volume expander to include special oxygen carrying molecules to replace red blood cells. Therefore, the Company is developing formulations that do not use costly and potentially toxic oxygen carrying molecules such as synthetic hemoglobin and perfluorocarbons. However, recent laboratory findings by Company scientists suggest that Hextend can allow hemoglobin-based oxygen carrier solutions to be used. more effectively.

In order to commence clinical trials for regulatory approval of new products, such as Pentalyte and HetaCool, or new therapeutic uses of Hextend, it will be necessary for the Company to prepare and file with the FDA an Investigational New Drug Application ("IND") or an amendment to expand the present IND for additional Hextend studies. Filings with foreign regulatory agencies will be required to commence clinical trials overseas.

BioTime has completed a Phase I clinical trial of Pentalyte involving a small number of subjects and has submitted its findings to the FDA. BioTime plans to test Pentalyte for the treatment of hypovolemia in surgery. Pentalyte contains a lower molecular weight hydroxyethyl starch than Hextend, and is more quickly metabolized. Pentalyte is designed for use when short lasting volume expansion is desirable.

BioTime is also continuing to develop solutions for low temperature surgery and trauma care. A number of physicians have reported using Hextend to treat hypovolemia under mild hypothermic conditions during cardiac surgery. Additional cardiac surgeries have been performed at deeper hypothermic temperatures. In one case, Hextend was used to treat hypovolemia in a cancer patient operated on under deep hypothermic conditions in which the heart was arrested. Once a sufficient amount of data from successful low temperature surgery has been compiled, the Company plans to seek permission to conduct trials using Hextend as a complete replacement for blood under near-freezing conditions. BioTime currently plans to market Hextend for complete blood volume replacement at very low temperatures under the registered trade mark "HetaCool(R)" after FDA approval is obtained.

The cost of preparing regulatory filings and conducting clinical trials is not presently determinable, but could be substantial. It may be necessary for the Company to obtain additional funds in order to complete any clinical trials that it may conduct for its new products or for new uses of Hextend.

In addition to developing clinical trial programs, the Company plans to continue to provide funding for its laboratory testing programs at selected universities, medical schools and hospitals for the purpose of developing additional uses of Hextend, PentaLyte, HetaCool, and other new products, but the amount of research that will be conducted at those institutions will depend upon the Company's financial status.

The Company was incorporated under the laws of the State of California on November 30, 1990. The Company's principal office is located at 935 Pardee Street, Berkeley, California 94710. Its telephone number at such office is (510) 845-9535.

Hextend(R) and PentaLyte(R) are registered trademarks, and HetaCoolTM is a trademark, of BioTime, Inc.

Products for Surgery, Plasma Volume Replacement and Emergency Care

The Market for Plasma Volume Expanders

The Company is developing Hextend, PentaLyte, HetaCool and other synthetic plasma expander solutions to treat acute blood loss that occurs as a result of trauma injuries and during many kinds of surgery. These products are synthetic, can be sterilized, and can be manufactured in large volumes. Hextend, PentaLyte, and HetaCool contain constituents that may maintain physiological balance when used to replace lost blood volume.

Hextend is also currently being used to treat hypovolemia subsequent to trauma or sepsis by emergency room physicians. After appropriate clinical testing and regulatory approval, it may be used by paramedics to treat acute blood loss in trauma victims being transported to the hospital. Hextend has also been purchased by the United States armed forces and may be used in cases of battlefield trauma.

Approximately 10,000,000 surgeries take place in the United States each year, and blood transfusions are required in approximately 3,000,000 of those cases. Transfusions are also required to treat patients suffering severe blood loss due to traumatic injury. Many more surgical and trauma cases do not require blood transfusions but do involve significant bleeding that can place the patient at risk of suffering from shock caused by the loss of fluid volume (hypovolemia) and physiological balance. Whole blood and packed red cells generally cannot be administered to a patient until the patient's blood has been typed and sufficient units of compatible blood or red cells can be located. Periodic shortages of supply of donated human blood are not uncommon, and rare blood types are often difficult to locate. The use of human blood products also poses the risk of exposing the patient to blood borne diseases such as AIDS and hepatitis.

Due to the risks and cost of using human blood products, even when a sufficient supply of compatible blood is available, physicians treating patients suffering blood loss are generally not permitted to transfuse red blood cells until the patient's level of red blood cells has fallen to a level known as the "transfusion trigger." During the course of surgery, while blood volume is being lost, the patient is infused with plasma volume expanders to maintain adequate blood circulation. During the surgical

procedure, red blood cells are not generally replaced until the patient has lost approximately 45% to 50% of their red blood cells, thus reaching the transfusion trigger at which point the transfusion of red blood cells may be required. After the transfusion of red blood cells, the patient may continue to experience blood volume loss, which will be replaced with plasma volume expanders. Even in those patients who do not require a transfusion, physicians routinely administer plasma volume expanders to maintain sufficient fluid volume to permit the available red blood cells to circulate throughout the body and to maintain the patient's physiological balance.

Several units of fluid replacement products are often administered during surgery. The number of units will vary depending upon the amount of blood loss and the kind of plasma volume expander administered. Crystalloid products must be used in larger volumes than colloid products such as Hextend. Albumin produced from human plasma can be used for this purpose, but it is expensive and subject to supply shortages. Additionally, an FDA warning has cautioned physicians about the risk of administering albumin to seriously ill patients.

#### The Market for Products for Hypothermic Surgery

During 1997, more than 500,000 coronary bypass and other open heart surgeries were performed in the United States annually. Approximately 18,000 aneurysm surgeries and 4,000 arterio-venous malformation surgeries were performed in the United States during 1989. Current estimates indicate that more than 1,000,000 people over age 55 have pathological changes associated with aortic arch aneurysms. Open heart procedures often require the use of cardio-pulmonary bypass equipment to do the work of the heart and lungs during the surgery. During open heart surgery and surgical procedures for the treatment of certain cardiovascular conditions such as large aneurysms, cardiovascular abnormalities and damaged blood vessels in the brain, surgeons must temporarily interrupt the flow of blood through the body. Interruption of blood flow can be maintained only for short periods of time at normal body temperatures because many critical organs, particularly the brain, are quickly damaged by the resultant loss of oxygen. As a result, certain surgical procedures are performed at low temperatures because lower body temperature helps to minimize the chance of damage to the patient's organs by reducing the patient's metabolic rate, thereby decreasing the patient's needs during surgery for oxygen and nutrients which normally flow through the blood.

Current technology limits the degree to which surgeons can lower a patient's temperature and the amount of time the patient can be maintained at a low body temperature because blood, even when diluted, cannot be circulated through the body at near-freezing temperatures. As a result, surgeons face severe time constraints in performing surgical procedures requiring blood flow interruption, and those time limitations prevent surgeons from correcting certain cardiovascular abnormalities.

Hypothermic techniques may also have an important use in treating trauma patients that have experienced severe blood loss. BioTime is sponsoring a new project at the State University of New York Health Sciences Center in Brooklyn to study hypothermia and complete blood volume replacement with HetaCool in an animal model of civilian trauma.

Hextend, PentaLyte and HetaCool

The Company's first three blood volume replacement products, Hextend, PentaLyte, and HetaCool have been formulated to maintain the patient's tissue and organ function by sustaining the patient's fluid

volume and physiological balance. Hextend, PentaLyte, and HetaCool, are composed of a hydroxyethyl starch, electrolytes, sugar and a buffer in an aqueous base. Hextend and HetaCool use a high molecular weight hydroxyethyl starch (hetastarch) whereas PentaLyte uses a lower molecular weight hydroxyethyl starch (pentastarch). The hetastarch is retained in the blood longer than the pentastarch, which may make Hextend and HetaCool the products of choice when a larger volume of plasma expander or blood replacement solution for low temperature surgery is needed or where the patient's ability to restore his own blood proteins after surgery is compromised. PentaLyte, with pentastarch, would be eliminated from the blood faster than Hextend and HetaCool and might be used when less plasma expander is needed or where the patient is more capable of quickly restoring lost blood proteins. The Company has also tested Hexalyte, a new plasma volume expander that contains a low molecular weight hydroxyethyl starch and that would be eliminated from the body more rapidly than Hextend and HetaCool, but not as rapidly as PentaLyte. BioTime believes that by testing and bringing these products to the market, it can increase its market share by providing the medical community with solutions to match patients' needs.

Certain clinical test results indicate that Hextend is effective at maintaining blood calcium levels when used to replace lost blood volume. Calcium can be a significant factor in regulating blood clotting and cardiac function. Clinical studies have also shown that Hextend maintains acid-base better than saline-based surgical fluids. The Company expects that PentaLyte will also be able to maintain blood calcium levels and acid-base balance based upon laboratory studies and the fact that the formulation of PentaLyte is similar to that of Hextend.

BioTime has not attempted to synthesize potentially toxic and costly oxygen carrying molecules such as hemoglobin because the loss of fluid volume and physiological balance may contribute as much to shock as the loss of the oxygen carrying component of the blood. Surgical and trauma patients are routinely given supplemental oxygen and retain a substantial portion of their own red blood cells. Whole blood or packed red blood cells are generally not transfused during surgery or in trauma care until several units of plasma volume expanders have been administered and the patient's hematocrit has fallen to the transfusion trigger. Therefore, the lack of oxygen carrying molecules in the Company's solutions should not pose a significant contraindication to use.

However, BioTime scientists have conducted laboratory animal experiments in which they have shown that Hextend can be successfully used in conjunction with a hemoglobin-based oxygen carrier solution approved for veterinary purposes to completely replace the animal's circulating blood volume without any subsequent transfusion and without the use of supplemental oxygen. By diluting these oxygen carrier solutions, Hextend may reduce the potential toxicity and costs associated with the use of those products. Once such solutions have received regulatory approval and become commercially available, this sort of protocol may prove valuable in markets in parts of the developing world where the blood supply is extremely unsafe. These applications may also be useful in combat where logistics make blood use impracticable.

Hextend is BioTime's proprietary hetastarch-based synthetic blood plasma volume expander, designed especially to treat hypovolemia in surgery where patients experience significant blood loss. An important goal of the Hextend development program was to produce a product that can be used in multi-liter volumes. The safety related secondary endpoints targeted in the U.S. clinical study included those involving coagulation. The Company believes that the low incidence of adverse events related to blood clotting in the Hextend patients demonstrates that Hextend may be safely used in amounts exceeding 1.5 liters. An average of 1.6 liters of Hextend was used in the Phase III clinical trials, with an average of two

liters for patients who received transfused blood products. Since then, more than a quarter million units (500 ml. bags) have been sold for commercial purposes, and the use of quantities of 7 to 8 liters per patient have been reported. There have been no serious adverse events directly related to the use of Hextend even when used in these large volumes.

Hextend is also being used in surgery with cardio-pulmonary bypass circuits. In order to perform heart surgery, the patient's heart must be stopped and a mechanical apparatus is used to oxygenate and circulate the blood. The cardio-pulmonary bypass apparatus requires a blood compatible fluid such as Hextend to commence and maintain the process of diverting the patient's blood from the heart and lungs to the mechanical oxygenator and pump. In a recent clinical trial, cardiac surgery patients treated with Hextend, maintained more normal kidney function, experienced less pain and nausea, showed no deep venous thromboses, avoided dialysis, and had shorter delay times to first meal compared to those treated with other fluids.

PentaLyte is BioTime's proprietary pentastarch-based synthetic plasma expander, designed especially for use when a faster elimination of the starch component is desired and acceptable. Although Hextend can be used in these cases, some physicians appear to prefer a solution which could be metabolized faster and excreted earlier when the longer term protection provided by Hextend is not required. PentaLyte combines the physiologically balanced Hextend formulation with pentastarch that has a lower molecular weight and degree of substitution than the hetastarch used in Hextend. Plasma expanders containing pentastarch are currently widely used around the world. BioTime has completed its Phase I clinical study and is planning more advanced PentaLyte clinical trials. BioTime's present plan is to seek approval of PentaLyte for use in the treatment of hypovolemia.

Abbott has certain rights of first refusal to obtain a license to manufacture and market PentaLyte in the United States and Canada.

HetaCool is a modified formulation of Hextend. HetaCool is specifically designed for use at low temperatures. Surgeons are already using a variety of other solutions to carry out certain limited procedures involving shorter term (up to nearly one hour) arrest of brain and heart function at temperatures between 15o and 25o C. However, BioTime is not aware of any fluid currently used in medical practice or any medically-approved protocol allowing operations which can completely replace all of a patient's blood at temperatures close to the ice point. The Company believes that very low temperature bloodless surgical techniques could be developed for open heart and minimally invasive closed chest cardiovascular surgeries, removal of tumors from and the repair of aneurysms in the brain, heart, and other areas, as well as in the treatment of trauma, toxicity and cancer.

The Company is in the process of preparing an amendment to its Hextend IND application to conduct clinical trials using HetaCool as a solution to replace all of a patient's circulating blood volume during profound hypothermic (carried out at near-freezing temperatures) surgical procedures. The experimental protocol for the planned blood replacement clinical trial is being tested on animal subjects. HetaCool would be introduced into the patient's body during the cooling process. Once the patient's body temperature is nearly ice cold, and heart and brain function are temporarily arrested, the surgeon would perform the operation. During the surgery, HetaCool may be circulated throughout the body in place of blood, or the circulation may be arrested for a period of time if an interruption of fluid circulation is required. Upon completion of the surgery, the patient would be slowly warmed and blood would be transfused.

Cardiac surgeons are working to develop innovative procedures to repair damaged coronary arteries and heart valves. If optically guided surgical instruments can be inserted into the heart through blood vessels or small incisions, there may be no need to open the patient's chest cavity. BioTime believes that HetaCool may be useful in these minimally invasive closed chest cardiac procedures because the solution is transparent and if it were used to completely replace blood at low temperatures it would permit surgeons to use their optically guided instruments inside the heart or blood vessels without having their view obstructed by blood. The use of BioTime's solutions may also allow better control over stopping and starting the heart, as well as extending the time period of such surgeries.

HetaCool has been used to completely replace the blood volume of hamsters, dogs, pigs, and baboons at temperatures approaching freezing. Many of these animal subjects survived long term after hypothermic blood substitution with HetaCool. In these laboratory tests, the animals' blood was replaced by HetaCool and they were chilled for one to more than four hours with deep body temperatures between 10C and 10oC.

BioTime has recently launched a research program using HetaCool in animal models of trauma at the State University of New York Health Science Center in Brooklyn. Preliminary laboratory results there have already supported the feasibility of using HetaCool to treat subjects following severe hemorrhage. The use of HetaCool at near-freezing temperatures also will be studied in animal models of cardiovascular surgery at the Texas Heart Institute in Houston. The project has been approved by the appropriate internal committees, and is awaiting the beginning of experimentation.

BioTime is developing a new formulation that has allowed the revival of hamsters after as long as 6.5 hours of hypothermic blood substitution during which time the animals' heartbeat and circulation were stopped.

Abbott has certain rights of first refusal to obtain a license to manufacture and market HetaCool in the United States and Canada.

## Organ Transplant Products

### The Market for Organ Preservation Solutions

Organ transplant surgery is a growing field. Each year in the United States, approximately 5,000 donors donate organs, and approximately 5,000 people donate skin, bone and other tissues. As more surgeons have gained the necessary expertise and surgical methods have been refined, the number of transplant procedures has increased, as has the percentage of successful transplants. Organ transplant surgeons and their patients face two major obstacles, namely the shortage of available organs from donors, and the limited amount of time that a transplantable organ can be kept viable between the time it is harvested from the donor and the time it is transplanted into the recipient.

The scarcity of transplantable organs makes them too precious to lose and increases the importance of effective preservation technology and products. Current organ removal and preservation technology generally requires multiple preservation solutions to remove and preserve effectively different groups of organs. The removal of one organ can impair the viability of other organs. Available technology does not permit surgeons to keep the remaining organs viable within the donor's body for a significant time after the first organ is removed. Currently, an organ available for transplant is flushed with an ice cold



solution during the removal process to deactivate the organ and preserve its tissues, and then the organ is transported on ice to the donee. The ice cold solutions currently used, together with transportation on ice, keep the organ healthy for only a short period of time. For example, the storage time for hearts is limited to approximately six hours. Because of the short time span available for removal and transplant of an organ, potential organ donees may not receive the needed organs.

BioTime is seeking to address this problem by developing a more effective organ preservation solution that will permit surgeons to harvest all transplantable organs from a single donor. The Company believes that preserving the viability of all transplantable organs and tissues simultaneously, at low temperatures, would extend by several hours the time span in which the organs can be preserved prior to transplant.

Using HetaCool for Multi-Organ Preservation. The Company is seeking to develop HetaCool for use as a single solution that can simultaneously preserve all of a single donor's organs. When used as an organ preservation solution, HetaCool would be perfused into the donor's body while the body is chilled, thereby eliminating an undesirable condition called "warm ischemia," caused when an organ is warm while its blood supply is interrupted. The use of HetaCool in conjunction with the chilling of the body should help to slow down the process of organ deterioration by a number of hours so that a surgeon can remove all organs for donation and transplant. The Company's current estimates are that each such preservation procedure could require as much as 50 liters of HetaCool.

The Company believes that the ability to replace an animal's blood with the Company's HetaCool solution, to maintain the animal at near freezing temperatures for several hours, and then revive the animal, would demonstrate that the solution could be used for multi-organ preservation. Company scientists have revived animals after more than six hours of cold blood-substitution, and have observed heart function in animals maintained cold and blood-substituted for more than eight hours. An objective of the Company's research and development program is to extend the time span in which animal subjects can be maintained in a cold, blood-substituted state before revival or removal of organs for transplant purposes. Organ transplant procedures using animal subjects could then be conducted to test the effectiveness of HetaCool as an organ preservative.

A successful transplant of a lung cooled inside the donor's body prior to transplant has recently been reported in Sweden. The patient who received the lung is reported to be doing well several months later. The success of that transplant, which did not involve the use of a BioTime product, involved the preservation and transplant of a single organ, but indicates that hypothermic techniques can be used to preserve organs in the donor prior to removal for transplant.

#### Long-term Tissue and Organ Banking

The development of marketable products and technologies for the preservation of tissues and vital organs for weeks and months is a long-range goal of the Company's research and development plan. To permit such long-term organ banking the Company is attempting to develop products and technologies that can protect tissues and organs from the damage that occurs when human tissues are subjected to subfreezing temperatures.

HetaFreeze is one of a family of BioTime's freeze-protective solutions which may ultimately allow the extension of time during which organs and tissues can be stored for future transplant or surgical

grafting. In laboratory experiments, BioTime's proprietary freeze-protective compounds have already been used to preserve skin when used as a whole animal perfusate. Silver dollar size full thickness shaved skin samples have been removed after saturation with HetaFreeze solution, frozen at liquid nitrogen temperatures and stored for periods ranging from days to weeks. The grafts were then warmed and sewn onto the backs of host animals. Many of these grafts survived.

In other laboratory experiments, BioTime scientists have shown that animals can be revived to consciousness after partial freezing with their blood replaced by HetaFreeze. While this technology has not developed to an extent that allows long term survival of the laboratory subjects, and their organs, a better understanding of the effects of partial freezing could allow for extended preservation times for vital organs, skin and blood vessels.

#### Other Potential Uses of BioTime Solutions

Isolated regional perfusion of anti-cancer drugs has been used to treat melanoma of the limbs, and inoperable tumors of the liver. The Company believes that employing such a procedure while the patient is kept in ice-cold blood-substitution may allow high doses of toxic anti-cancer drugs to be directed at inoperable tumors within vital organs, which would selectively be warmed. Keeping the rest of the patient in a cold, blood substituted state may reduce or eliminate the circulation of the toxic drugs to healthy tissues.

BioTime considers such surgical techniques to be a longer range goal of its research and development program for hypothermic surgery products. Use of this complex technology in the practice of oncology can occur only after ice-cold blood-substitution has advanced to an appropriate level of safety and effectiveness.

#### Research and Development Strategy

From inception through December 31, 2001, the Company has expensed \$21,630,518 on research and development. The greatest portion of BioTime's research and development efforts have been devoted to the development of Hextend, PentaLyte and HetaCool for conventional surgery, emergency care, low temperature surgery, and multi-organ preservation. A lesser portion of the Company's research and development efforts have been devoted to developing solutions and protocols for storing organs and tissues at subfreezing temperatures. In the future the Company may explore other applications of its products and technologies, including cancer chemotherapy. As the first products achieve market entry, more effort will be expended to bring the next tier of products to maturity.

A major focus of the Company's research and development effort has been on products and technology to significantly reduce or eliminate the need for blood products in surgery and trauma care. The Company has recently conducted preliminary studies using Hextend in a pressurized oxygen environment and found that Hextend can replace nearly all, or in some cases all, of the circulating blood of rats. Some of the rats were able to live long term without a subsequent transfusion, while others received their own blood back. In other cases, Hextend was used in large volumes in association with a hemoglobin-based oxygen carrier solution approved for veterinary use. When used in this way, rats were able to live long term after all their circulating blood was replaced at normal body temperature breathing room air.

In still other experiments, rats were allowed to lose approximately half their circulating blood volume, and then allowed to develop and remain in respiratory arrest from 10-18 minutes. They were then resuscitated with Hextend and either ventilated with 100% oxygen, or in a hyperbaric oxygen chamber containing 100% oxygen at two atmospheres above normal pressure. Some of the rats recovered and lived long term after as long as 15 minutes of respiratory arrest. The hyperbaric chamber appeared to have improved the outcome in a number of cases.

These studies indicate that Hextend can potentially be used in a variety of protocols in which donor blood is difficult or impossible to use, such as on the battlefield, or in parts of the world where there is a shortage of disease-free blood.

Another major focus of the Company's research and development effort has been on products and technology to extend the time animals can be kept cold and blood-substituted, and then revived without physical impairment. An integral part of that effort has been the development of techniques and procedures or "protocols" for use of the Company's products. A substantial amount of data has been accumulated through animal tests, including the proper surgical techniques, drugs and anesthetics, the temperatures and pressures at which blood and blood replacement solutions should be removed, restored and circulated, solution volume, the temperature range, and times, for maintaining circulatory arrest, and the rate at which the subject should be rewarmed.

Experiments intended to test the efficacy of the Company's low temperature blood replacement solutions and protocols for surgical applications involve replacing the animal's blood with the Company's solution, maintaining the animal in a cold blood-substituted state for a period of time, and then attempting to revive the animal. Experiments for multi-organ preservation involve the maintenance of the animal subjects at cold temperatures for longer periods of time than would be required for many surgical applications, followed by transplant procedures to test the viability of one or more of the subject's vital organs.

The Company is conducting experiments at hospitals, medical schools, and university research facilities. These collaborative research programs are testing solutions and protocols developed in the Company's laboratories and, in some cases, comparing the efficacy of the Company's products with commercially available FDA approved products manufactured by other companies. Collaborative gerontological research is being conducted at the University of California at Berkeley. The Company intends to continue to foster relations with research hospitals and medical schools for the purpose of conducting collaborative research projects because it believes that such projects will introduce the Company's potential products to members of the medical profession and provide the Company with objective product evaluations from independent research physicians and surgeons.

BioTime has also expanded its product development efforts by initiating an interventional gerontology program focused on the identification of specific factors central to aging of the brain. The program, which is being undertaken with the cooperation of the University of California at Berkeley, is focused on the development of medical and pharmacological strategies to treat senescence related consequences.

## Licensing

### Abbott Laboratories

On April 23, 1997, the Company and Abbott entered into a License Agreement under which the Company granted to Abbott an exclusive license to manufacture and sell Hextend in the United States and Canada for all therapeutic uses other than those involving hypothermic surgery where the patient's body temperature is lower than 12(degree)C ("Hypothermic Use"), or replacement of substantially all of a patient's circulating blood volume ("Total Body Washout"). The Company has retained all rights to manufacture, sell or license Hextend and other products in all other countries.

Under the Abbott License Agreement, Abbott has agreed to pay the Company up to \$40,000,000 in license fees, of which \$2,500,000 has been paid to date for the grant of the license and the achievement of certain milestones. Up to \$37,500,000 of additional license fees will be payable based upon annual net sales of Hextend, at the rate of 10% of annual net sales if annual net sales exceed \$30,000,000 or 5% if annual net sales are between \$15,000,000 and \$30,000,000. Abbott's obligation to pay licensing fees on sales of Hextend will expire on the earlier of January 1, 2007 or, on a country by country basis, when all patents protecting Hextend in the applicable country expire or any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

In addition to the license fees, Abbott will pay the Company a royalty on total annual net sales of Hextend. The royalty rate will be 5% plus an additional .22% for each \$1,000,000 of annual net sales, up to a maximum royalty rate of 36%. The royalty rate for each year will be applied on a total net sales basis. Abbott's obligation to pay royalties on sales of Hextend will expire in the United States or Canada when all patents protecting Hextend in the applicable country expire and any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

Abbott has agreed that the Company may convert Abbott's exclusive license to a non-exclusive license or may terminate the license outright if certain minimum sales and royalty payments are not met. In order to terminate the license outright, the Company would pay a termination fee in an amount ranging from the milestone payments made by Abbott to an amount equal to three times prior year net sales, depending upon when termination occurs. Abbott's exclusive license also may terminate, without the payment of termination fees by the Company, if Abbott fails to market Hextend. Abbott has agreed to manufacture Hextend for sale by the Company in the event that Abbott's exclusive license is terminated in either case.

Abbott has certain rights to acquire additional licenses to manufacture and sell the Company's other plasma expander products in the United States and Canada. If Abbott exercises these rights to acquire a license to sell such products for uses other than Hypothermic Surgery or Total Body Washout, in addition to paying royalties, Abbott will be obligated to pay a license fee based upon the Company's direct and indirect research, development and other costs allocable to the new product. If Abbott desires to acquire a license to sell any of the Company's products for use in Hypothermic Surgery or Total Body Washout, the license fees and other terms of the license will be subject to negotiation between the parties. For the purpose of determining the applicable royalty rates, net sales of any such new products licensed by Abbott will be aggregated with sales of Hextend. If Abbott does not exercise its right to acquire a new product license, the Company may manufacture and sell the product itself or may license others to do so.

In order to preserve its rights to obtain an exclusive license for Pentalyte under its License Agreement, Abbott notified the Company that Abbott will supply BioTime with batches of Pentalyte, characterization and stability studies, and other regulatory support needed for BioTime to file an IND and conduct clinical studies.

The foregoing description of the Abbott License Agreement is a summary only and is qualified in all respects by reference to the full text of that License Agreement.

#### Other Licensing Efforts

The Company is discussing prospective licensing arrangements with other pharmaceutical companies that have expressed their interest in marketing the Company's products abroad. In licensing arrangements that include marketing rights, the participating pharmaceutical company would be entitled to retain a large portion of the revenues from sales to end users and would pay the Company a royalty on net sales. There is no assurance that any such licensing arrangements can be made.

#### Manufacturing

##### Manufacturing Arrangements

Abbott manufactures Hextend for the North American market, and NPBI International, BV, a Netherlands company ("NPBI"), has manufactured lots of Hextend for the Company's use in seeking regulatory approval in Europe. Abbott and NPBI have the facilities to manufacture Hextend and other BioTime products in commercial quantities. If Abbott chooses not to obtain a license to manufacture and market another BioTime product, and if NPBI declines to manufacture BioTime products on a commercial basis, other manufacturers will have to be found that would be willing to manufacture products for BioTime or any licensee of BioTime products.

##### Facilities Required

Any products that are used in clinical trials for regulatory approval in the United States or abroad, or that are approved by the FDA or foreign regulatory authorities for marketing, have to be manufactured according to "good manufacturing practices" at a facility that has passed regulatory inspection. In addition, products that are approved for sale will have to be manufactured in commercial quantities, and with sufficient stability to withstand the distribution process, and in compliance with such domestic and foreign regulatory requirements as may be applicable. The active ingredients and component parts of the products must be either USP or themselves manufactured according to "good manufacturing practices".

The Company does not have facilities to manufacture its products in commercial quantities, or under "good manufacturing practices." Acquiring a manufacturing facility would involve significant expenditure of time and money for design and construction of the facility, purchasing equipment, hiring and training a production staff, purchasing raw material and attaining an efficient level of production. Although the Company has not determined the cost of constructing production facilities that meet FDA requirements, it expects that the cost would be substantial, and that the Company would need to raise additional capital in the future for that purpose. To avoid the incurrence of those expenses and delays, the Company is relying on contract and licensing arrangements with established pharmaceutical

companies for the production of the Company's products, but there can be no assurance that satisfactory arrangements will be made for any new products that the Company may develop.

#### Raw Materials

Although most ingredients in the products being developed by the Company are readily obtainable from multiple sources, the Company knows of only a few manufacturers of the hydroxyethyl starches that serve as the drug substance in Hextend, Pentalyte and HetaCool. Abbott presently has a source of supply of the hydroxyethyl starch used in Hextend, Pentalyte and HetaCool, and has agreed to maintain a supply sufficient to meet market demand for Hextend in the United States and Canada. The Company believes that it will be able to obtain a sufficient supply of starch for its needs in the foreseeable future, although the Company does not have supply agreements in place. If for any reason a sufficient supply of hydroxyethyl starch could not be obtained, the Company or a licensee would have to acquire a manufacturing facility and the technology to produce the hydroxyethyl starch according to good manufacturing practices. The Company would have to raise additional capital to participate in the development and acquisition of the necessary production technology and facilities.

If arrangements cannot be made for a source of supply of hydroxyethyl starch, the Company would have to reformulate its solutions to use one or more other starches that are more readily available. In order to reformulate its products, the Company would have to perform new laboratory testing to determine whether the alternative starches could be used in a safe and effective synthetic plasma volume expander, low temperature blood substitute or organ preservation solution. If needed, such testing would be costly to conduct and would delay the Company's product development program, and there is no certainty that any such testing would demonstrate that an alternative ingredient, even if chemically similar to the one currently used, would be as safe or effective.

#### Marketing

Hextend is being sold by Abbott in the United States. When regulatory approval is obtained, Hextend will be sold by Abbott in Canada as well.

Hextend has been approved for use and added to hospital formularies in hundreds of hospitals. Inclusion on hospital formularies is important because it enables physicians to obtain Hextend without the need to special order it.

Because Hextend is a surgical product, sales efforts must be directed to physicians and hospitals. The Hextend marketing strategy is designed to reach its target customer base through sales calls and an advertising campaign focused on the use of a plasma-like substance to replace lost blood volume and the ability of Hextend to support vital physiological processes.

Hextend competes with other products used to treat or prevent hypovolemia, including albumin, generic 6% hetastarch solutions, and crystalloid solutions. The competing products have been commonly used in surgery and trauma care for many years, and in order to sell Hextend, physicians must be convinced to change their product loyalties. Although albumin is expensive, crystalloid solutions and generic 6% hetastarch solutions sell at low prices. In order to compete with other products, particularly

those that sell at lower prices, Hextend will have to be recognized as providing medically significant advantages.

As part of the marketing program, a number of studies have been conducting that show the advantages of receiving Hextend and other BioTime products during surgery. As these studies are completed, the results are presented at medical conferences and articles written for publication in medical journals. The Company is also aware of independent studies using Hextend that are being conducted by physicians and hospitals who may publish their findings in medical journals or report their findings at medical conferences. The outcome of future medical studies and timing of the publication or presentation of the results could have an effect on Hextend sales.

#### Government Regulation

The FDA and foreign regulatory authorities will regulate the Company's proposed products as drugs, biologicals, or medical devices, depending upon such factors as the use to which the product will be put, the chemical composition and the interaction of the product on the human body. In the United States, products that are intended to be introduced into the body, such as blood substitute solutions for low temperature surgery and plasma expanders, will be regulated as drugs and will be reviewed by the FDA staff responsible for evaluating biologicals.

The Company's domestic human drug products will be subject to rigorous FDA review and approval procedures. After testing in animals, an Investigational New Drug (IND) application must be filed with the FDA to obtain authorization for human testing. Extensive clinical testing, which is generally done in three phases, must then be undertaken at a hospital or medical center to demonstrate optimal use, safety and efficacy of each product in humans. Each clinical study is conducted under the auspices of an independent Institutional Review Board ("IRB"). The IRB will consider, among other things, ethical factors, the safety of human subjects and the possible liability of the institution. The time and expense required to perform this clinical testing can far exceed the time and expense of the research and development initially required to create the product. No action can be taken to market any therapeutic product in the United States until an appropriate New Drug Application ("NDA") has been approved by the FDA. Even after initial FDA approval has been obtained, further studies may be required to provide additional data on safety or to gain approval for the use of a product as a treatment for clinical indications other than those initially targeted. In addition, use of these products during testing and after marketing could reveal side effects that could delay, impede or prevent FDA marketing approval, resulting in a FDA-ordered product recall, or in FDA-imposed limitations on permissible uses.

The FDA regulates the manufacturing process of pharmaceutical products, requiring that they be produced in compliance with "good manufacturing practices." See "Manufacturing." The FDA also regulates the content of advertisements used to market pharmaceutical products. Generally, claims made in advertisements concerning the safety and efficacy of a product, or any advantages of a product over an other product, must be supported by clinical data filed as part of an NDA or an amendment to an NDA, and statements regarding the use of a product must be consistent with the FDA approved labeling and dosage information for that product.

Sales of pharmaceutical products outside the United States are subject to foreign regulatory requirements that vary widely from country to country. Even if FDA approval has been obtained, approval of a product by comparable regulatory authorities of foreign countries must be obtained prior

to the commencement of marketing the product in those countries. The time required to obtain such approval may be longer or shorter than that required for FDA approval.

#### Patents and Trade Secrets

The Company currently holds 17 issued United States patents having composition and methods of use claims covering BioTime's proprietary solutions, including Hextend and PentaLyte. The most recent U.S. patents were issued during 2001. Thirty patents covering certain of the Company's solutions have also been issued in the countries of the European Union, Australia, Israel, Russia, Hong Kong, South Africa, Japan, and South Korea. Additional patent applications have been filed in the United States and numerous other countries for Hextend, PentaLyte and other solutions. Certain device patents describing BioTime's hyperbaric chamber, and proprietary microcannula have also been issued in the United States and overseas, both of which - although only used in research so far - have possible indications in clinical medicine.

There is no assurance that any additional patents will be issued, or that any patents now held or later obtained by the Company will not be successfully challenged by third parties and declared invalid or infringing of third party claims. Further, the enforcement of patent rights often requires litigation against third party infringers, and such litigation can be costly to pursue.

In addition to patents, the Company will rely on trade secrets, know-how and continuing technological advancement to maintain its competitive position. The Company has entered into intellectual property, invention and non-disclosure agreements with its employees and it is the Company's practice to enter into confidentiality agreements with its consultants. There can be no assurance, however, that these measures will prevent the unauthorized disclosure or use of the Company's trade secrets and know-how or that others may not independently develop similar trade secrets and know-how or obtain access to the Company's trade secrets, know-how or proprietary technology.

#### Competition

The Company's solutions will compete with products currently used to treat or prevent hypovolemia, including albumin, other colloid solutions, and crystalloid solutions presently manufactured by established pharmaceutical companies, and with human blood products. Some of these products, in particular crystalloid solutions, are commonly used in surgery and trauma care and sell at low prices. In order to compete with other products, particularly those that sell at lower prices, the Company's products will have to be recognized as providing medically significant advantages. Like Hextend, the competing products are being manufactured and marketed by established pharmaceutical companies that have large research facilities, technical staffs and financial and marketing resources. B.Braun presently markets Hespan, an artificial plasma volume expander containing 6% hetastarch in saline solution. Abbott and Baxter International manufacture and sell a generic equivalent of Hespan. As a result of the introduction of generic plasma expanders intended to compete with Hespan, competition in the plasma expander market has intensified and wholesale prices have declined. Abbott, which markets Hextend for BioTime in the United States, is also the leading seller of generic 6% hetastarch in saline solution. Aventis Behring, LLC, Baxter International, and Alpha Therapeutics sell albumin, and Abbott, Baxter International and B.Braun sell crystalloid solutions



To compete with new and existing plasma expanders, the Company has developed products that contain constituents that may prevent or reduce the physiological imbalances, bleeding, fluid overload, edema, poor oxygenation, and organ failure that can occur when competing products are used. To compete with existing organ preservation solutions, the Company has developed solutions that can be used to preserve all organs simultaneously and for long periods of time.

A number of other companies are known to be developing hemoglobin and synthetic red blood cell substitutes and technologies. BioTime's products have been developed for use either before red blood cells are needed or in conjunction with the use of red blood cells. In contrast, hemoglobin and other red blood cell substitute products are designed to remedy ischemia and similar conditions that may result from the loss of oxygen carrying red blood cells. Those products would not necessarily compete with the Company's products unless the oxygenating molecules were included in solutions that could replace fluid volume and prevent or reduce the physiological imbalances as effectively as the Company's products. Generally, red blood cell substitutes are more expensive to produce and potentially more toxic than Hextend and Pentalyte.

Competition in the areas of business targeted by the Company is likely to intensify further as new products and technologies reach the market. Superior new products are likely to sell for higher prices and generate higher profit margins once acceptance by the medical community is achieved. Those companies that are successful in introducing new products and technologies to the market first may gain significant economic advantages over their competitors in the establishment of a customer base and track record for the performance of their products and technologies. Such companies will also benefit from revenues from sales which could be used to strengthen their research and development, production, and marketing resources. All companies engaged in the medical products industry face the risk of obsolescence of their products and technologies as more advanced or cost effective products and technologies are developed by their competitors. As the industry matures, companies will compete based upon the performance and cost effectiveness of their products.

#### Employees

As of December 31, 2001, the Company employed nine persons on a full-time basis and three persons on a part-time basis. Three full-time employees and one part-time employee hold Ph.D. Degrees in one or more fields of science.

#### Risk Factors

Some of the factors that could materially affect the Company's operations and prospects are discussed below. There may be other factors that are not mentioned here or of which BioTime is not presently aware that could also affect BioTime's operations.

#### Development Stage Company; Continuing Operating Losses

BioTime is in the development stage, and, is principally engaged in research and development activities. To date, the Company's operating revenues have been generated primarily from licensing fees, including \$2,500,000 received from Abbott for the right to manufacture and market Hextend in the United States and Canada. Only one of the Company's products is presently on the market, and since the

Company received FDA approval to market Hextend it has received \$204,409 of royalties on sales. As a result of the developmental nature of its business and the limited sales of its product, since the Company's inception in November 1990 it has incurred \$30,770,238 of losses. There can be no assurance that the Company will generate sufficient revenues from licensing its products and technologies and from royalties on sales of its products to be profitable.

#### Uncertainty of Future Sales; Competition

The Company's ability to generate substantial operating revenue depends upon the ability of Abbott to successfully market Hextend and any other BioTime products that they may license in the future. There can be no assurance that Hextend or any other products that receive FDA or foreign regulatory approval will be successfully marketed or that the Company will receive sufficient revenues from product sales to meet its operating expenses.

Widespread acceptance of the Company's products and technologies by the medical profession will take time to develop because many physicians and hospitals are reluctant to try a new product due to the high degree of risk associated with the application of new technologies and products in the field of human medicine.

Hextend and BioTime's other plasma expander products will compete with products currently used to treat or prevent hypovolemia, including albumin and other colloid solutions, and crystalloid solutions. Some of these products, in particular crystalloid solutions, are commonly used in surgery and trauma care and sell at low prices. In order to compete with other products, particularly those that sell at lower prices, the Company's products will have to be recognized as providing medically significant advantages. Such recognition may come from the publication of medical studies in medical journals or the presentation of the results of such studies at medical conferences. While some studies of Hextend have already been published or presented at medical conferences, it will take time to complete further studies and for the results of those studies to be published or presented.

Products that compete with Hextend are being manufactured and sold by established pharmaceutical companies with substantial resources. B. Braun presently sells Hespan, an artificial plasma volume expander that contains 6% hetastarch in saline solution. Abbott and Baxter International manufacture and sell a generic equivalent of Hespan. As a result of the introduction of generic plasma expanders intended to compete with Hespan, competition in the plasma expander market has intensified and wholesale prices have declined. Aventis Behring, LLC, Baxter International, and Alpha Therapeutics sell albumin. Abbott, Baxter International and B. Braun sell crystalloids. There also is a risk that the Company's competitors may succeed in developing safer or more effective products that could render the Company's products and technologies obsolete or noncompetitive.

#### BioTime Needs to Raise Additional Capital

The Company needs to raise capital to meet its operating expenses until such time as it is able to generate sufficient revenues from product sales or royalties. In August 2001, BioTime raised \$3,350,000 through the sale of debentures to a group of private investors. In March of 2002, the Company entered into a Credit Agreement with Alfred D. Kingsley, an investor and consultant to the Company, under which the Company may borrow up to \$300,000 for working capital purposes. Amounts borrowed under

the Credit Agreement will bear interest at 10% per annum and will be due in one year or when BioTime receives at least \$600,000 through the sale of capital stock, loans from other lenders, fees under licensing agreements (excluding royalty payments), or any combination of those sources. Mandatory prepayments of principal will be due to the extent that the Company receives funds from any one or more of those sources in excess of \$300,000 but less than \$600,000, and the amount of any such mandatory prepayments of principal will reduce the maximum amount available under the Credit Agreement and will not be available for future borrowings. The Company will have the right to make voluntary prepayments of principal that would otherwise not be due, without penalty or premium but with accrued interest, at any time, and any amounts voluntarily prepaid will be available for future borrowings, so long as the Company is not in default under the Credit Agreement, and the outstanding principal balance loaned under the Credit Agreement does not exceed \$300,000. Although BioTime believes that its cash on hand and funds available under the Credit Agreement will be sufficient to allow it to continue its operations on a limited scale for 12 months, it will need additional funds to begin clinical trials of PentaLyte and to conduct its other product development and research programs. There can be no assurance that the Company will be able to raise additional funds on favorable terms or at all, or that such funds, if raised, will be sufficient to permit the Company to continue its operations, notwithstanding the progress of its research and development projects. The Company's operating expenses will increase if it succeeds in bringing additional products out of the laboratory testing phase of development and into clinical trials. Additional financing will be required for the continuation or expansion of the Company's research and product development, additional clinical trials of new products, and production and marketing of Company products that receive FDA or foreign regulatory approval. Although the Company will continue to seek licensing fees from pharmaceutical companies for licenses to manufacture and market new products such as PentaLyte and HetaCool, additional sales of equity or debt securities will be required to meet the Company's short-term capital needs. Sales of additional equity securities could result in the dilution of the interests of present shareholders.

#### BioTime Products Cannot Be Marketed Without FDA and Other Regulatory Approvals

The products that BioTime develops cannot be sold until the FDA and corresponding foreign regulatory authorities approve the products for medical use. The regulatory process, which includes preclinical, clinical and post-clinical testing of each product to establish its safety and efficacy, can take several years to complete and require the expenditure of substantial time and funds. Data obtained from preclinical and clinical activities are susceptible to varying interpretations which could delay, limit or prevent regulatory approval. In addition, delays or rejections may be encountered as a result of changes in FDA policy during the period of product development and FDA regulatory review. Similar delays may also be encountered in foreign countries. There can be no assurance that, even after substantial expenditures of time and money, regulatory approval will be obtained for any new products developed by the Company. Moreover, even if regulatory approval of a product is granted, such approval may entail limitations on the indicated uses for which the product may be marketed. After regulatory approval is obtained, the approved product, the manufacturer and the manufacturing facilities are subject to continual review and periodic inspections, and a later discovery of previously unknown problems with a product, manufacturer or facility may result in restrictions on the product or manufacturer, including withdrawal of the product from the market. Failure to comply with the applicable regulatory requirements can, among other things, result in fines, suspensions of regulatory approvals, product recalls, operating restrictions and criminal prosecution. Additional government regulation may be established which could prevent or delay regulatory approval of the Company's products.

#### Uncertainty as to the Successful Development of Medical Products

The Company's business involves the attempt to develop new medical products and technologies. Such experimentation is inherently costly, time consuming and uncertain as to its results. If the Company is successful in developing a new technology or product, refinement of the new technology or product and definition of the practical applications and limitations of the technology or product may take years and require the expenditure of large sums of money. From the date of the Company's inception through December 31, 2001, the Company expended \$21,630,518 on research and development, and the Company expects to continue to incur substantial research and development expenses.

#### Absence of Manufacturing and Marketing Capabilities; Reliance Upon Licensing

The Company presently does not have adequate facilities or resources to manufacture its products or the hydroxyethyl starches used in its products. BioTime has granted Abbott an exclusive license to manufacture and market Hextend in the United States and Canada, and BioTime plans to enter into additional arrangements with pharmaceutical companies for the production and marketing of the Company's products in other countries. There can be no assurance that the Company will be successful in entering into those arrangements.

#### Patents May Not Protect BioTime Products from Competition

The Company has obtained patents in the United States, countries of the European Union, Australia, Israel, Russia, Hong Kong, South Africa, Japan, and South Korea, and has filed patent applications in certain foreign countries, for certain products, including Hextend and PentaLyte. No assurance can be given that any additional patents will be issued to the Company, or that the Company's patents will provide meaningful protection against the development of competing products. There also is no assurance that competitors will not successfully challenge the validity or enforceability of any patent issued to the Company. The costs required to uphold the validity and prevent infringement of any patent issued to the Company could be substantial, and the Company might not have the resources available to defend its patent rights.

#### Prices and Sales of Products May be Limited by Health Insurance Coverage and Government Regulation

Success in selling BioTime's products may depend in part on the extent to which health insurance companies, HMOs, and government health administration authorities such as Medicare and Medicaid will pay for the cost of the products and related treatment. Health insurance reimbursements and HMO coverage now include the cost of Hextend used in surgical procedures. However, there can be no assurance that such reimbursements will continue. In some foreign countries, pricing or profitability of health care products is subject to government control. In the United States, there have been a number of federal and state proposals to implement similar government controls, and new proposals are likely to be made in the future.

## Dependence Upon Key Personnel

The Company depends to a considerable degree on the continued services of its executive officers. The loss of the services of any of the executive officers could have a material adverse effect on the Company. In addition, the success of the Company will depend, among other factors, upon successful recruitment and retention of additional highly skilled and experienced management and technical personnel.

## BioTime Does Not Pay Cash Dividends

BioTime does not pay cash dividends on its Common Shares. For the foreseeable future it is anticipated that any earnings generated from the Company's business will be used to finance the growth of the Company and will not be paid out as dividends to BioTime shareholders. BioTime has also agreed not to declare or pay any cash dividends on its capital stock or to redeem or repurchase any shares of its capital stock, until it has paid off the debenture indebtedness in full.

## The Price of BioTime Stock May Rise and Fall Rapidly

BioTime Common Shares are traded on the American Stock Exchange. The market price of the Common Shares, like that of the common stock of many biotechnology companies, has been highly volatile. The price of BioTime shares may rise rapidly in response to certain events, such as the commencement of clinical trials of an experimental new drug, even though the outcome of those trials and the likelihood of ultimate FDA approval remains uncertain. Similarly, prices of BioTime shares may fall rapidly in response to certain events such as unfavorable results of clinical trials or a delay or failure to obtain FDA approval. The failure of the Company's earnings to meet analysts' expectations could result in a significant rapid decline in the market price of the Company's shares. In addition, the stock market has experienced and continues to experience extreme price and volume fluctuations which have affected the market price of the equity securities of many biotechnology companies and which have often been unrelated to the operating performance of these companies. Such broad market fluctuations, as well as general economic and political conditions, may adversely affect the market price of BioTime Common Shares.

## Item 2. Facilities.

The Company occupies its office and laboratory facility in Berkeley, California under a lease that will expire on March 31, 2004. The Company presently occupies approximately 8,890 square feet of space and pays rent in the amount of \$11,024 per month. The rent will increase annually by the greater of 3% and the increase in the local consumer price index, subject to a maximum annual increase of 7%. The Company also pays all charges for utilities and garbage collection.

The Company has an option to extend the term of the lease for a period of three years, and to terminate the lease early upon six months notice.

The Company uses, on a fee per use basis, facilities for surgical research on animals at an unaffiliated privately run research center located in Winters, California. Contracting for the use of research facilities has enabled the Company to initiate its research projects without the substantial capital cost, overhead

costs and delay associated with the acquisition and maintenance of a modern animal surgical research facility.

Item 3. Legal Proceedings.

The Company is not presently involved in any material litigation or proceedings, and to the Company's knowledge no such litigation or proceedings are contemplated.

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

None.

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

The Company's Common Shares have been trading on the American Stock Exchange since August 31, 1999, and traded on the Nasdaq National Market from April 28, 1998 to August 30, 1999, and on the Nasdaq SmallCap Market from March 5, 1992 through April 27, 1998. The closing price of the Company's Common Shares on the AMEX on March 25, 2002 was \$3.58.

The following table sets forth the range of high and low bid prices for the Common Shares for the fiscal years ended December 31, 2000 and 2001 based on transaction data as reported by Nasdaq and AMEX.

Quarter Ended	High	Low
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March 31, 2000	17.13	8.63
June 30, 2000	12.25	5.50
September 30, 2000	9.13	6.38
December 31, 2000	8.31	3.81
March 31, 2001	11.10	6.23
June 30, 2001	8.50	6.40
September 30, 2001	7.95	4.50
December 31, 2001	6.15	4.22

As of March 7, 2002, there were 324 shareholders of record of the Common Shares based upon information from the Registrar and Transfer Agent.

The Company has paid no dividends on its Common Shares since its inception and does not plan to pay dividends on its Common Shares in the foreseeable future. BioTime has also agreed not to declare or pay any cash dividends on its capital stock or to redeem or repurchase any shares of its capital stock,

until it has paid off in full the indebtedness on certain debentures issued during August 2001. See "Management's Discussion and Analysis of Financial Condition and Results of Operations-Liquidity and Capital Resources."

During the three month periods ended September 30, 2001 and December 31, 2001, the Company issued 862 common shares and 1,087 common shares, respectively, to Milton D. Dresner in lieu of a cash fee for serving as a director. The shares were issued without registration under the Securities Act of 1933, as amended, pursuant to the exemption provided in Section 4(2). See "Directors' Meetings, Compensation and Committees of the Board."

Item 6. Selected Financial Data.

The selected financial data as of, and for the periods ended, December 31, 2001, 2000, 1999 and 1998, and June 30, 1998 and 1997 presented below have been derived from the audited financial statements of the Company. The selected financial data should be read in conjunction with the Company's financial statements and notes thereto and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere herein.

Statement of Operations Data:

	Year Ended December 31,			Six Months Ended December 31,	Year Ended	Year Ended
	2001	2000	1999	1998	June 30, 1998	June 30, 1997
<b>REVENUE:</b>						
License fee	\$ -	\$ -	\$ 1,037,500	\$ 250,000	\$ 1,150,000	\$ 62,500
Royalty from product sale	151,917	52,492	-	-	-	-
<b>Total revenue</b>	<b>151,917</b>	<b>52,492</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>62,500</b>
<b>EXPENSES:</b>						
Research and development	(1,685,168)	(3,362,841)	(4,900,521)	(1,723,860)	(3,048,775)	(2,136,325)
General and administrative	(1,961,342)	(1,779,931)	(1,896,690)	(710,131)	(1,849,312)	(1,209,546)
<b>Total expenses</b>	<b>(3,646,510)</b>	<b>(5,142,772)</b>	<b>(6,797,211)</b>	<b>(2,433,991)</b>	<b>(4,898,087)</b>	<b>(3,345,871)</b>
<b>INTEREST EXPENSE AND OTHER INCOME:</b>						
Interest expense	(278,576)	-	-	-	-	-
Other income	114,344	165,256	279,827	89,513	294,741	189,161
<b>Total interest expense and other income</b>	<b>(114,685)</b>	<b>165,256</b>	<b>279,827</b>	<b>89,513</b>	<b>294,741</b>	<b>189,161</b>
<b>NET LOSS</b>	<b>\$ (3,658,825)</b>	<b>\$(4,925,024)</b>	<b>\$(5,479,884)</b>	<b>\$(2,094,478)</b>	<b>\$(3,453,346)</b>	<b>\$ (3,094,210)</b>
<b>BASIC AND DILUTED LOSS PER SHARE</b>						
	\$ (0.32)	(0.44)	(0.51)	(0.21)	(0.35)	\$ (0.35)
<b>COMMON AND EQUIVALENT SHARES USED IN COMPUTING PER SHARE AMOUNTS:</b>						
<b>BASIC AND DILUTED</b>	<b>11,562,108</b>	<b>11,042,087</b>	<b>10,688,100</b>	<b>10,008,468</b>	<b>9,833,156</b>	<b>8,877,024</b>

Balance Sheet Data:

	December 31, 2001	December 31, 2000	December 31, 1999	December 31, 1998	June 30, 1998	June 30, 1997
Cash, cash equivalents and short term investments	\$ 1,652,748	\$ 1,318,338	\$ 5,292,806	\$ 2,429,014	\$ 4,105,781	\$ 7,811,634
Working Capital	1,452,832	1,081,237	4,804,579	2,157,578	3,724,663	6,846,575
Total assets	1,941,375	1,677,484	5,678,644	2,809,455	4,641,780	8,297,774
Shareholders' equity	(99,094)	1,317,735	5,083,132	2,384,752	4,014,750	6,536,106



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

Overview

Since its inception in November 1990, the Company has been engaged primarily in research and development activities which have culminated in the commercial launch of Hextend, its lead product, and a clinical trial of Pentalyte. The Company's operating revenues have been generated primarily from licensing fees, including \$2,500,000 received from Abbott Laboratories for the right to manufacture and market Hextend(R) in the United States and Canada. As a result of the developmental nature of its business and the limited sales of its product, since the Company's inception in November 1990 it has incurred \$30,770,238 of losses. The Company's ability to generate substantial operating revenue depends upon its success in developing and marketing or licensing its plasma volume expanders and organ preservation solutions and technology for medical use.

Most of the Company's research and development efforts have been devoted to the Company's first three blood volume replacement products: Hextend,(R) Pentalyte,(R) and HetaCool.(TM) By testing and bringing all three products to the market, BioTime can increase its market share by providing the medical community with solutions to match patients' needs. By developing technology for the use of HetaCool in low temperature surgery, trauma care, and organ transplant surgery, BioTime may also create new market segments for its product line.

The Company's first product, Hextend, is a physiologically balanced blood plasma volume expander, for the treatment of hypovolemia. Hextend is being sold in the United States by Abbott Laboratories under an exclusive license from the Company. Abbott also has the right to sell Hextend in Canada, where an application for marketing approval is pending. Abbott also has a right to obtain licenses to manufacture and sell other BioTime products.

Under its License Agreement with the Company, Abbott will report sales of Hextend and pay the Company the royalties and license fees due on account of such sales within 90 days after the end of each calendar quarter. The Company recognizes such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place, as the Company does not have sufficient sales history to accurately predict quarterly sales. Hextend sales are still in the ramp- up phase.

Revenues for the year ended December 31, 2001 include royalties on sales made by Abbott during the period beginning October 1, 2000 and ending September 30, 2001. Royalties on sales recognized as revenues made during that 12 month period were \$151,917. Royalties on sales during the three month period ending December 31, 2001 were \$57,235 but will not be recognized by the Company for financial accounting purposes until the first quarter of fiscal year 2002. Hextend sales are still in the ramp-up phase , as illustrated by the following graph:

[The following descriptive data is supplied in accordance with Rule 304(d) of Regulation S-T]

[GRAPHIC OMITTED]

Semi-Annual Hextend(R) Sales (\$ millions)

Jul-Dec'99	0.3
Jan-Jun'00	0.5
Jul-Dec'00	1.0
Jan-Jun'01	1.2
Jul-Dec'01	1.9

The graph illustrates semi-annual sales of Hextend derived from quarterly sales reports provided to BioTime by Abbott with royalty payments. Royalties on sales that occurred during the third quarter of 1999 through the third quarter of 2000 are reflected in the Company's financial statements for the year ended December 31, 2000. Royalties on sales that occurred during the third quarter of 2000 through the third quarter of 2001 are reflected in the Company's financial statements for the year ended December 31, 2001. Royalties on sales that occurred during the fourth quarter of 2001 will be reflected in the Company's financial statements for the first quarter of 2002.

As shown above, semi-annual sales of Hextend have increased 760% from the last half of 1999, when the product was first launched, through the last half of 2001. Sales during the last half of 2001 were strong despite the adverse influences of the events of September 11, 2001, and sales of Hextend continue to rise progressively from year to year. BioTime attributes these gains in semi-annual sales to escalating marketing efforts, an accelerating demand for Hextend by physicians and hospitals due to its outstanding performance in many hundreds of operating rooms around the country, and recent clinical trial results which highlight its many clinical benefits. Based on preliminary estimates, current monthly sales of Hextend are nearly half of the amount of monthly sales the Company needs to operate at the break-even point at the present reduced rate of Company spending, which includes substantial salary reductions and limited research and development activities.

As part of the marketing program, a number of studies have been conducted that show the advantages of receiving Hextend and other BioTime products during surgery. For example, the

results of a clinical trial by NJ Wilkes et al performed in England and entitled "The effects of balanced versus saline-based hetastarch and crystalloid solutions on acid-base and electrolyte status and gastric mucosal perfusion in elderly surgical patients" was published in the October 2001 edition of Anesthesia and Analgesia, and underscores a number of Hextend benefits including maintenance of normal acid-base balance, blood calcium and chloride levels and perfusion of portions of the gastro-intestinal tract. Furthermore, the results of a clinical study of 200 cardiac surgery patients at Columbia University Medical Center in New York were presented at the 2001 Annual Meeting of the Anesthesiology Society of America. In that study, patients receiving Hextend had better outcomes than patients receiving other surgical fluids (6% hetastarch in normal saline, albumin in saline and lactated Ringer's), based upon maintenance of renal function, avoidance of dialysis, avoidance of deep venous thromboses, lower level of pain, nausea and suffering, shorter time to first meal, and less clotting abnormalities.

As future studies such as these are completed, the results will be presented at medical conferences and articles will be written for publication in medical journals. The Company is also aware of independent studies using Hextend that are being conducted by physicians and hospitals who may publish their findings in medical journals or report their findings at medical conferences. The outcome of future medical studies and timing of the publication or presentation of the results could have an effect on Hextend sales.

Hextend has become the standard plasma volume expander at a number of prominent teaching hospitals and leading medical centers. BioTime feels that as Hextend use proliferates within the leading US hospitals, other smaller hospitals will follow their lead and accelerate sales growth.

Hextend is being evaluated by a number of military physicians as a plasma volume expander in the treatment of hypovolemia in combat casualties. This was the topic of a number of formal presentations and discussions at Combat Fluid Resuscitation 2001, a meeting held at the Uniformed Services University of the Health Sciences in Bethesda, Maryland in June, 2001, under their auspices and that of the Office of Naval Research and the US Army Medical Research and Materiel Command. Additionally, a meeting was held at Hahnemann University Medical College of Pennsylvania in Philadelphia on October 8, 2001 at which military and civilian medical and scientific personnel discussed making recommendations to the United States military on the use of intravenous fluids and medical devices to treat combat casualties. Hextend was among the fluids considered during this meeting.

The Company has completed a Phase I clinical trial of PentaLyte and is planning the next phase of its clinical trials in which PentaLyte will be used to treat hypovolemia in surgery.

The Company is also continuing to develop solutions for low temperature surgery. Once a sufficient amount of data from successful low temperature surgery has been compiled, the Company plans to seek permission to use Hextend as a complete replacement for blood under near-freezing conditions. BioTime currently plans to market Hextend for complete blood volume replacement at very low temperatures under the registered trade mark "HetaCool(TM)" after FDA approval is obtained.

Abbott has an option to obtain a license to market PentaLyte and HetaCool in the United States and Canada, and BioTime would receive additional license fees if those options are exercised,

in addition to royalties on subsequent sales of those products. BioTime and certain pharmaceutical companies are discussing potential manufacturing, distributing and marketing agreements for BioTime products in the rest of the world.

In order to commence clinical trials for regulatory approval of new products or new therapeutic uses of products, it will be necessary for the Company to prepare and file with the FDA an Investigational New Drug Application ("IND") or an amendment to expand a previous filing. Filings with foreign regulatory agencies will be required to commence clinical trials overseas. The Company has filed an application to market Hextend in Canada, and its first application for approval in a European Union member nation, Sweden. Regulatory approvals for other countries that are members of the European Union may be obtained through a mutual recognition process. If approvals can be obtained in the requisite number of member nations, then the Company would be permitted to market Hextend in all 16 member nations. BioTime is continuing to work with the appropriate officials to achieve regulatory approval in Canada and Sweden.

In addition to developing clinical trial programs, the Company plans to continue to provide funding for its laboratory testing programs at selected universities, medical schools and hospitals for the purpose of developing additional uses of Hextend, PentaLyte, HetaCool, and other new products, but the amount of research that will be conducted at those institutions will depend upon the Company's financial status. Because the Company's research and development expenses, clinical trial expenses, and production and marketing expenses will be charged against earnings for financial reporting purposes, management expects that there will be losses from operations from time to time during the near future.

Hextend(R) and PentaLyte(R) are registered trademarks, and HetaCool(TM) is a trademark, of BioTime.

#### Results of Operations

Year Ended December 31, 2001 and Year Ended December 31, 2000

For the year ended December 31, 2001, the Company recognized \$151,917 of royalty revenues. Under its License Agreement with the Company, Abbott reports sales of Hextend and pays the Company the royalties and license fees due on account of such sales within 90 days after the end of each calendar quarter. The Company recognizes such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place, as the Company does not have sufficient sales history to accurately predict quarterly sales. Royalties on sales made during the fourth quarter of 2001 will not be recognized by the Company until the first quarter of fiscal year 2002.

For the year ended December 31, 2001, interest and other income decreased to \$114,344 from \$165,256 for the year ended December 31, 2000. The decrease is attributable to lower interest rates and cash balances for 2001, versus 2000.

Research and development expenses decreased to \$1,685,168 for the year ended December 31, 2001, down from \$3,362,841 for the year ended December 31, 2000. The decrease is attributable to a significant decrease in laboratory study expenses and fees paid to scientific research personnel as a result of a cost reduction program in which the Company reduced its research and development activities. Research and development expenses include laboratory study expenses, European clinical trial expenses, salaries, preparation of additional regulatory applications in the United States and Europe, manufacturing of solution for trials, and consultants' fees. It is expected that research and development expenses will increase if the Company obtains sufficient capital to commence new clinical studies of its products in the United States and Europe.

General and administrative expenses increased to \$1,961,342 for the year ended December 31, 2001 from \$1,779,931 for the year ended December 31, 2000. This increase is attributable to significant increases in expenditures for the Company's Annual Report and Meeting, fees required for continued stock exchange listing, overall insurance costs, investor/public relations costs, legal and accounting fees, and costs associated with continued maintenance of the Company's patent portfolio.

The company's interest expense increased by \$278,576 during 2001 because it began to borrow money to meet its capital needs.

Year Ended December 31, 2000 and Year Ended December 31, 1999

For the year ended December 31, 2000, the Company recognized \$52,492 of royalty revenues. During Fiscal 1999 the Company recognized \$1,037,500 of license fees that were received from Abbott during prior years. No license fee revenue was received in Fiscal 2000.

For the year ended December 31, 2000, interest and other income decreased to \$165,256 from \$279,827 for the year ended December 31, 1999. The decrease is attributable to a decrease in cash and cash equivalents for the year ended December 31, 2000.

Research and development expenses decreased to \$3,362,841 for the year ended December 31, 2000, from \$4,900,521 for the year ended December 31, 1999. The decrease is attributable to a decrease in clinical trials and laboratory study expenses, and completion of the European clinical trial. Research and development expenses include laboratory study expenses, European clinical trial expenses, salaries, preparation of additional regulatory applications in the United States and Europe, manufacturing of solution for trials, and consultants' fees.

General and administrative expenses decreased to \$1,779,931 for the year ended December 31, 2000, from \$1,896,690 for the year ended December 31, 1999. This decrease is attributable to a decrease in the general operations of the Company.

## Taxes

At December 31, 2001 the Company had a cumulative net operating loss carryforward of approximately \$37,200,000 for federal income tax purposes.

## Liquidity and Capital Resources

Since inception, the Company has primarily financed its operations through the sale of equity securities, licensing fees, and borrowings. During August 2001, the Company received loans of \$3,350,000 through the sale of debentures to a group of private investors, including Alfred D. Kingsley, an investor and consultant to the Company, who purchased \$1,500,000 of debentures, and Milton Dresner, a director of the Company. Mr. Kingsley's investment included the conversion of the \$1,000,000 principal balance of a line of credit that he had previously provided.

Interest on the debentures is payable at an annual rate of 10% and is payable semiannually. The principal amount of the debentures will be due and payable on August 1, 2004. BioTime may prepay the debentures, in whole or in part, at any time without premium or penalty. Under the terms of the debentures, BioTime has agreed that commencing October 1, 2001 it will restrict its quarterly cash payments for operating expenses to not more than \$450,000 (excluding interest payable on the debentures) plus the amount of cash revenues (excluding interest and dividends) it collects for the quarter. To the extent BioTime's expenditures during any quarter are less than \$450,000 over its revenues, it may expend the difference in one or more subsequent quarters.

That restriction will expire when BioTime obtains at least \$5,000,000 in cash through sales of equity securities or pays off the debenture indebtedness in full. For this purpose, cash revenues will include royalties, license fees, and other proceeds from the sale or licensing of its products and technology, but will not include interest, dividends, and any monies borrowed or the proceeds from the issue or sale of any debt or equity securities. BioTime has also agreed not to declare or pay any cash dividends on its capital stock or to redeem or repurchase any shares of its capital stock, until it has paid off the debenture indebtedness in full.

Investors who purchased the debentures also received warrants to purchase a total of 515,383 common shares at an exercise price of \$6.50 per share. The warrants will expire if not exercised by August 1, 2004. After June 30, 2002, the Company has the right to call the warrants for redemption at a redemption price of \$0.01 per share if the closing price of the Company's common shares on the American Stock Exchange equals or exceeds 150% of the exercise price for fifteen (15) consecutive trading days and the shares issuable upon the exercise of the warrants have been registered for sale under the Securities Act of 1933, as amended (the "Securities Act").

On March 27, 2002, the Company entered into a new Credit Agreement with Alfred D. Kingsley under which the Company may borrow up to \$300,000 for working capital purposes. Amounts borrowed under the Credit Agreement will bear interest at 10% per annum and will be due on March 27, 2003 or when BioTime receives at least \$600,000 through the sale of capital stock, loans from other lenders, fees under licensing agreements (excluding royalty payments), or any combination of those sources. Mandatory prepayments of principal will be due to the extent that the Company receives funds from any one or more of those sources in excess of \$300,000 but less than \$600,000, and the amount of

any such mandatory prepayments of principal will reduce the maximum amount available under the Credit Agreement and will not be available for future borrowings. The Company will have the right to make voluntary prepayments of principal that would otherwise not be due, without penalty or premium but with accrued interest, at any time, and any amounts voluntarily prepaid will be available for future borrowings, so long as the Company is not in default under the Credit Agreement, and the outstanding principal balance loaned under the Credit Agreement does not exceed \$300,000.

In connection with entering into the Credit Agreement on March 27, 2002, the Company granted Alfred D. Kingsley a warrant to purchase 30,000 shares of the Company's common stock at \$4.00 per share. The warrants are fully exercisable and non-forfeitable on the date of grant and expire on March 26, 2007.

The following depicts BioTime's contractual obligations as of December 31, 2001:

Contractual Obligation	Total	Payments due by Period	
		less than 1 year	1-3 years
Debtures	\$3,350,000	\$ -	\$3,350,000
Operating Leases	309,672	135,264	174,408
Total Contractual Cash Obligations	\$3,659,672	\$ 135,264	\$3,524,408

At December 31, 2001, BioTime had \$ 1,652,748 of cash on hand, and has implemented cost savings and expenditure limitation measures. The Company needs additional capital and greater revenues to continue its current operations, to begin clinical trials of Pentalyte, and to conduct its planned product development and research programs. On March 27, 2002, the Company received a new \$300,000 line of credit. The Company has also retained certain investment bankers on a non-exclusive basis to assist the Company in raising capital. However, sales of additional equity securities could result in the dilution of the interests of present shareholders. The Company is also continuing to seek new agreements with pharmaceutical companies to provide product and technology licensing fees and royalties. The availability and terms of equity financing and new license agreements are uncertain. The unavailability or inadequacy of additional financing or future revenues to meet capital needs could force the Company to modify, curtail, delay or suspend some or all aspects of its planned operations. However, management believes its existing cash and available credit are sufficient to allow the Company to operate through December 31, 2002.

## Critical Accounting Policies and Estimates

Management's discussion and analysis of the Company's financial condition and results of operations are based on the Company's financial statements, which have been prepared in conformity with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires management to make judgments and estimates that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. The Company based its estimates on historical experience and on various other assumptions that it believed to be reasonable under the circumstances. Actual results may differ from such estimates under different assumptions or conditions. The following summarizes the Company's critical accounting policies and significant estimates used in preparing its financial statements:

### Debenture and Warrant Valuation

During 2001 and in connection with the issuance of \$3,350,000 of debt, the Company issued warrants to purchase common shares in the Company. The fair value of the warrants was estimated using the Black-Scholes option pricing model and has been recorded at a discount to the debentures. The discount is being amortized using the effective interest rate method over the term of the loan. The Company may prepay the debt, in whole or in part, at any time. If the Company were to prepay the debt, the unamortized portion of the discount would be recognized as a loss on the repayment date.

### Revenue Recognition

Under the Company's License Agreement with Abbott Laboratories, the Company has received \$2,500,000 of license fees based upon achievement of specified milestones. Such fees have been recognized as revenue as the milestones were achieved. Up to \$37,500,000 of additional license fees will be payable based upon annual net sales of Hextend, at the rate of 10% of annual net sales if annual net sales exceed \$30,000,000 or 5% if annual net sales are between \$15,000,000 and \$30,000,000. Abbott's obligation to pay licensing fees on sales of Hextend will expire on the earlier of January 1, 2007 or, on a country by country basis, when all patents protecting Hextend in the applicable country expire or any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

In addition to the license fees, Abbott will pay the Company a royalty on total annual net sales of Hextend. The royalty rate will be 5% plus an additional .22% for each \$1,000,000 of annual net sales, up to a maximum royalty rate of 36%. The royalty rate for each year will be applied on a total net sales basis. Abbott's obligation to pay royalties on sales of Hextend will expire in the United States or Canada when all patents protecting Hextend in the applicable country expire and any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

The Company recognizes such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place, as the Company does not have sufficient sales history to accurately predict quarterly sales. Revenues for the year ended December 31, 2001 include royalties on sales made by Abbott during the twelve months ended September 30, 2001. Royalties



on sales made during the fourth quarter of 2001 will not be recognized by the Company until the first quarter of fiscal year 2002. Royalties on sales made during the quarter ended December 31, 2001 were not material to the Company's financial results.

#### Deferred Tax Asset Valuation Allowance

The Company records a valuation allowance to reduce its deferred tax assets when it is more likely than not, based upon currently available evidence and other factors, that it will not realize some portion of, or all of, the deferred tax assets. The Company bases its determination of the need for a valuation allowance on an ongoing evaluation of current evidence including, among other things, estimates of future earnings and the expected timing of deferred tax asset reversals. The Company charges or credits adjustments to the valuation allowance to income tax expense in the period in which these determinations are made. If the Company determines that it would be able to realize its deferred tax assets in the future in excess of its net recorded amount, an adjustment to the deferred tax asset would increase income in the period this determination was made. Likewise, if the Company determines that it would not be able to realize all or part of its net deferred tax assets in the future, the Company would charge to operations an adjustment to the deferred tax asset in the period this determination was made.

#### Recently Issued Accounting Standards

Derivative instruments and hedging activities - On January 1, 2001, the Company adopted Statement of Financial Accounting Standards No. 133 ("SFAS 133"), "Accounting for Derivative Instruments and Hedging Activities." SFAS 133, as amended, requires that every derivative instrument, including certain derivative instruments embedded in other contracts, be recorded on the balance sheet at its fair value. Changes in the fair value of derivatives are recorded each period in current earnings or other comprehensive income, depending on whether a derivative is designated as part of a hedge transaction and, if it is, the type of hedge transaction. SFAS 133, as amended, requires that the Company formally document, designate, and assess the effectiveness of transactions that receive hedge accounting. The Company adopted SFAS 133, as amended, on January 1, 2001 and did not elect hedge accounting as defined by SFAS 133. The adoption of this statement did not have a material impact on the Company's financial position or results of operations.

Business combinations and goodwill - In June 2001, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 141 (SFAS 141), "Business Combinations" and Statement of Financial Accounting Standards No. 142 ("SFAS 142"), "Goodwill and Other Intangible Assets." SFAS 141 requires that all business combinations initiated after June 30, 2001 be accounted for under the purchase method and addresses the initial recognition and measurement of goodwill and other intangible assets acquired in a business combination. SFAS 141 addresses the initial recognition and measurement of intangible assets acquired outside of a business combination and the accounting for goodwill and other intangible assets subsequent to their acquisition. SFAS 142 provides that intangible assets with finite useful lives be amortized and that goodwill and intangible assets with indefinite lives will not be amortized, but will rather be tested

at least annually for impairment. The Company will adopt SFAS 141 and 142 on January 1, 2002. The adoption of this statement will not have a material impact on the financial statements.

Impairment and disposal of long lived assets - In October 2001, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 144 ("SFAS 144"), "Accounting for the Impairment or Disposal of Long-Lived Assets." SFAS 144 supersedes SFAS 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of," and the accounting and reporting provisions of Accounting Principles Board Opinion No. 30, "Reporting the Results of Operations - - Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions, " and addresses financial accounting and reporting for the impairment of disposal of long-lived assets. The Company will adopt SFAS 144 on January 1, 2002. The adoption of this statement will not have a material impact on the financial statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

The Company did not hold any market risk sensitive instruments as of December 31, 2001, December 31, 2000, or December 31, 1999.

Item 8. Financial Statements and Supplementary Data

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INDEPENDENT AUDITORS' REPORT

To the Board of Directors and Shareholders  
BioTime, Inc.:

We have audited the accompanying balance sheets of BioTime, Inc. (a development stage company) as of December 31, 2001 and 2000, and the related statements of operations, shareholders' equity (deficit) and cash flows for the years ended December 31, 2001, 2000, and 1999, and the period from November 30, 1990 (inception) to December 31, 2001. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, such financial statements present fairly, in all material respects, the financial position of BioTime, Inc. as of December 31, 2001 and 2000, and the results of its operations and its cash flows for the years ended December 31, 2001, 2000 and 1999, and the period from November 30, 1990 (inception) to December 31, 2001, in conformity with accounting principles generally accepted in the United States of America.

The Company is in the development stage as of December 31, 2001. As discussed in Note 1 to the financial statements, successful completion of the Company's product development program and, ultimately, the attainment of profitable operations is dependent upon future events, including maintaining adequate financing to fulfill its development activities, obtaining regulatory approval for products ultimately developed, and achieving a level of revenues adequate to support the Company's cost structure.

/s/DELOITTE & TOUCHE LLP  
San Francisco, California  
February 16, 2002  
(March 27, 2002 as to Note 9 and the fourth paragraph of Note 1)

BIOTIME, INC.  
(A Development Stage Company)

BALANCE SHEETS

	December 31, 2001	December 31, 2000
	-----	-----
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 1,652,748	\$ 1,318,338
Prepaid expenses and other current assets	109,430	122,648
	-----	-----
Total current assets	1,762,179	1,440,986
	-----	-----
EQUIPMENT, Net of accumulated depreciation of \$409,331 and \$352,104	167,946	226,598
DEPOSITS AND OTHER ASSETS	11,250	9,900
	-----	-----
TOTAL ASSETS	\$ 1,941,375	\$ 1,677,484
	=====	=====
LIABILITIES AND SHAREHOLDERS' EQUITY (DEFICIT)		
CURRENT LIABILITIES		
Accounts payable and accrued liabilities	\$ 309,347	\$ 359,749
COMMITMENTS (Note 6)		
DEBENTURES, net of discount of \$1,618,878	1,731,122	
SHAREHOLDERS' EQUITY (DEFICIT):		
Preferred Shares, no par value, undesignated as to Series, authorized 1,000,000 shares; none outstanding in 2001 and 2000 (Note 4)		
Common Shares, no par value, authorized 40,000,000 shares; issued and outstanding shares; 11,627,316 in 2001 and 11,426,604 in 2000 (Note 4 )	30,602,003	28,360,007
Contributed Capital	93,972	93,972
Deficit accumulated during development stage	(30,795,069)	(27,136,244)
	-----	-----
Total shareholders' equity (deficit)	(99,094)	1,317,735
	-----	-----
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY (DEFICIT)	\$ 1,941,375	\$ 1,677,484
	=====	=====

See notes to financial statements.

BIOTIME, INC.  
(A Development Stage Company)

STATEMENTS OF OPERATIONS

	Year Ended December 31,			Period from Inception (November 30, 1990) to December 31, 2001
	2001	2000	1999	
REVENUE:				
License fee	\$ -	\$ -	\$ 1,037,500	\$ 2,500,000
Royalty from product sales	151,917	52,492	-	204,409
Total revenue	151,917	52,492	-	2,704,409
EXPENSES:				
Research and development	(1,685,168)	(3,362,841)	(4,900,521)	(21,630,518)
General and administrative	(1,961,342)	(1,779,931)	(1,896,690)	(15,427,727)
Total expenses	(3,646,510)	(5,142,772)	(6,797,211)	(35,058,245)
INTEREST EXPENSE AND OTHER INCOME:				
Interest expense	(278,576)	-	-	(278,576)
Other income	114,344	165,256	279,827	1,862,174
Total interest expense and other income	(114,685)	165,256	279,827	1,633,145
NET LOSS	(3,658,825)	\$(4,925,024)	\$(5,479,884)	\$ (30,770,238)
BASIC AND DILUTED LOSS PER SHARE	\$ (0.32)	(0.44)	(0.51)	
COMMON AND EQUIVALENT SHARES USED IN COMPUTING PER SHARE AMOUNTS:				
BASIC AND DILUTED	11,562,108	11,042,087	10,688,100	

See notes to financial statements.

BIOTIME, INC.  
(A Development Stage Company)

STATEMENTS OF SHAREHOLDERS' EQUITY

	Series A Convertible Preferred Shares		Common Shares		Contributed Capital	Deficit Accumulated During Development Stage
	Number of Shares	Amount	Number of Shares	Amount		
BALANCE, November 30, 1990 (date of inception)	--	--	--	--	--	--
NOVEMBER 1990: Common shares issued for cash			1,312,758	\$ 263		
DECEMBER 1990: Common shares issued for stock of a separate entity at fair value			1,050,210	137,400		
Contributed equipment at appraised value					\$ 16,425	
Contributed cash					77,547	
MAY 1991: Common shares issued for cash less offering costs			101,175	54,463		
Common shares issued for stock of a separate entity at fair value			100,020	60,000		
JULY 1991: Common shares issued for services performed			30,000	18,000		
AUGUST-DECEMBER 1991: Preferred shares issued for cash less offering costs of \$125,700	360,000	\$ 474,300				
MARCH 1992: Common shares issued for cash less offering costs of \$1,015,873			2,173,500	4,780,127		
Preferred shares converted into common shares	(360,000)	(474,300)	360,000	474,300		
Dividends declared and paid on preferred shares						\$ (24,831)
MARCH 1994: Common shares issued for cash less offering costs of \$865,826			2,805,600	3,927,074		
JANUARY-JUNE 1995: Common shares repurchased with cash			(253,800)	(190,029)		
JULY 1995-JUNE 1996: Common shares issued for cash			608,697	1,229,670		
Common shares repurchased with cash			(18,600)	(12,693)		
Common shares warrants and options granted for services				356,000		
NET LOSS						(8,064,471)
BALANCE AT JUNE 30, 1996	--	\$ --	8,269,560	\$10,834,575	\$ 93,972	\$(8,089,302)

See notes to financial statements.

(Continued)

BIOTIME, INC.  
(A Development Stage Company)

STATEMENTS OF SHAREHOLDERS' EQUITY

(Continued)	Series A Convertible Preferred Shares		Common Shares		Contributed Capital	Deficit Accumulated During Development Stage
	Number of Shares	Amount	Number of Shares	Amount		
JULY 1996 - JUNE 1997:						
Common shares issued for cash less offering costs of \$170,597			849,327	\$ 5,491,583		
Common shares issued for cash (exercise of options and warrants)			490,689	1,194,488		
Common shares warrants and options granted for service				105,000		
JULY 1997 - JUNE 1998:						
Common shares issued for cash (exercise of options)			337,500	887,690		
Common shares warrants and options granted for service				38,050		
Common shares issued for services			500	6,250		
JULY 1998 - DECEMBER 1998:						
Common shares issued for cash (exercise of options and warrants)			84,000	395,730		
Common shares options granted for services				50,000		
Common shares issued for services			1,500	18,750		
NET LOSS						(8,642,034)
<hr style="border-top: 1px dashed black;"/>						
BALANCE AT DECEMBER 31, 1998	-	-	10,033,076	19,022,116	93,972	(16,731,336)
Common shares issued for cash (less offering costs of \$128,024)			751,654	7,200,602		
Common shares issued for cash and exchange for 2,491 common shares which were canceled (exercise of options)			65,509	199,810		
Common shares issued for services			792	9,900		
Common shares warrant donated				552,000		
Common shares issued for cash (exercise of warrant)			40,000	20,000		
Options granted for services				195,952		
NET LOSS						(5,479,884)
<hr style="border-top: 1px dashed black;"/>						
BALANCE AT DECEMBER 31, 1999	-	\$ -	10,891,031	\$27,200,380	\$93,972	\$(22,211,220)
See notes to financial statements.						

(Continued)



BIOTIME, INC.  
(A Development Stage Company)

STATEMENTS OF SHAREHOLDERS' EQUITY

(Continued)	Series A Convertible Preferred Shares		Common Shares		Contributed Capital	Deficit Accumulated During Development Stage
	Number of Shares	Amount	Number of Shares	Amount		
Common Shares issued for services			17,661	\$ 131,525		
Exercise of Options			51,000	51,000		
Exercise of Warrants (less issuance cost of \$36,176)			466,912	864,964		
Options granted for services				112,138		
NET LOSS						(4,925,024)
BALANCE AT DECEMBER 31, 2000	-	\$ -	11,426,604	\$ 28,360,007	\$ 93,972	\$(27,136,244)
Common Shares issued for services			48,890	324,169		
Common Shares issued for cash and exchanged for 9,295 common shares which were canceled (exercise of options)			74,004	16,488		
Common Shares issued for cash (exercise of warrants)			77,818	182,872		
Issuance of warrants in connection with debt financing				1,850,716		
Compensation benefit from revaluation of warrants				(132,249)		
NET LOSS						(3,658,825)
BALANCE AT DECEMBER 31, 2001	-	\$ -	11,627,319	\$ 30,602,003	\$ 93,972	\$(30,795,069)

See notes to financial statements.

(Concluded)

BIOTIME, INC.  
(A Development Stage Company)

STATEMENTS OF CASH FLOWS

	Year Ended December 31,			Period from Inception (November 30, 1990) to December 31, 2001
	2001	2000	1999	
<b>OPERATING ACTIVITIES:</b>				
Net loss	\$ (3,658,825)	\$ (4,925,024)	\$ (5,479,884)	\$(30,770,238)
Adjustments to reconcile net loss to net cash used in operating activities:				
Deferred revenue			(187,500)	(1,000,000)
Depreciation	63,767	75,458	59,540	415,872
Amortization of debt discount	231,838			231,838
Cost of donation - warrants			552,000	552,000
Issuance of common shares, options and warrants in exchange for services	191,920	243,663	220,574	1,233,484
Supply reserves				200,000
Changes in operating assets and liabilities:				
Research and development supplies on hand				(200,000)
Prepaid expenses and other current assets	13,218	(15,364)	31,260	(109,431)
Deposits and other assets	(1,350)		50,800	(11,250)
Accounts payable and accrued liabilities	(50,402)	(235,763)	358,309	309,347
Deferred revenue				1,000,000
Net cash used in operating activities	(3,209,834)	(4,857,030)	(4,394,901)	(28,148,378)
<b>INVESTING ACTIVITIES:</b>				
Sale of investments				197,400
Purchase of short-term investments				(9,946,203)
Redemption of short-term investments				9,946,203
Purchase of equipment and furniture	(5,116)	(33,402)	(161,719)	(567,392)
Net cash used in investing activities	(5,116)	(33,402)	(161,719)	(369,992)
<b>FINANCING ACTIVITIES:</b>				
Proceeds from issuance of Warrants and Debentures	2,350,000			2,350,000
Borrowings under line of credit	1,000,000			1,000,000
Issuance of preferred shares for cash				600,000
Preferred shares placement costs				(125,700)
Issuance of common shares for cash			7,328,626	23,701,732
Common shares placement costs		(36,177)	(128,024)	(2,216,497)

Net proceeds from exercise of common share options and warrants	199,360	952,141	219,810	5,011,589
Contributed capital - cash				77,547
Dividends paid on preferred shares				(24,831)
Repurchase of common shares				(202,722)
Net cash provided by financing activities	\$3,549,360	\$915,964	\$7,420,412	\$30,171,118

See notes to financial statements.

(Continued)

BIOTIME, INC.  
(A Development Stage Company)

STATEMENTS OF CASH FLOWS

	Year Ended December 31,			Period from Inception (November 30, 1990) to December 31, 2001
	2001	2000	1999	
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	334,410	(3,974,466)	2,863,792	1,652,748
CASH AND CASH EQUIVALENTS:				
At beginning of period	1,318,338	5,292,806	2,429,014	--
At end of period	<u>\$ 1,652,748</u>	<u>\$ 1,318,338</u>	<u>\$ 5,292,806</u>	<u>\$ 1,652,748</u>
NONCASH FINANCING AND INVESTING ACTIVITIES:				
Receipt of contributed equipment				\$ 16,425
Issuance of common shares in exchange for shares of common stock of Cryomedical Sciences, Inc. in a stock- for-stock transaction				\$ 197,400
Conversion of line-of-credit to debentures	\$ 1,000,000	--	--	\$ 1,000,000
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:				
Cash paid for interest	\$ --	--	--	--
Cash paid for income taxes	\$ --	--	--	--

See notes to financial statements.

(Concluded)

## NOTES TO FINANCIAL STATEMENTS

### 1. ORGANIZATION

General - BioTime, Inc. (the Company) was organized November 30, 1990 as a California corporation. The Company is a biomedical organization, currently in the development stage, which is engaged in the research and development of synthetic plasma expanders, blood volume substitute solutions, and organ preservation solutions, for use in surgery, trauma care, organ transplant procedures, and other areas of medicine.

Development Stage Enterprise - Since inception, the Company has been engaged in research and development activities in connection with the development of synthetic plasma expanders, blood volume substitute solutions and organ preservation products. The Company has limited operating revenues and has incurred net losses of \$30,770,238 from inception to December 31, 2001. The successful completion of the Company's product development program and, ultimately, achieving profitable operations is dependent upon future events including maintaining adequate capital to finance its future development activities, obtaining regulatory approvals for the products it develops and achieving a level of revenues adequate to support the Company's cost structure.

The Company's operations are subject to a number of factors that can affect its operating results and financial condition. Such factors include but are not limited to the following: the results of clinical trials of the Company's products; the Company's ability to obtain United States Food and Drug Administration and foreign regulatory approval to market its products; competition from products manufactured and sold or being developed by other companies; the price of and demand for Company products; the Company's ability to obtain additional financing and the terms of any such financing that may be obtained; the Company's ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products; the availability of ingredients used in the Company's products; and the availability of reimbursement for the cost of the Company's products (and related treatment) from government health administration authorities, private health coverage insurers and other organizations.

Certain Significant Risks and Uncertainties - At December 31, 2001, BioTime had \$ 1,652,748 of cash on hand, and has implemented cost savings and expenditure limitation measures. The Company needs additional capital and greater revenues to continue its current operations, to begin clinical trials of Pentalyte, and to conduct its planned product development and research programs. On March 27, 2002, the Company received a new \$300,000 line of credit (see Note 9). The Company has also retained certain investment bankers on a non-exclusive basis to assist the Company in raising capital. However, sales of additional equity securities could result in the dilution of the interests of present shareholders. The Company is also continuing to seek new agreements with pharmaceutical companies to provide product and technology licensing fees and royalties. The availability and terms of equity financing and new license agreements are uncertain. The unavailability or inadequacy of additional financing or future revenues to meet capital needs could force the Company to modify, curtail, delay or suspend some or all aspects of its planned operations. However, management believes its existing cash and available credit are sufficient to allow the Company to operate through December 31, 2002.

## 2. SIGNIFICANT ACCOUNTING POLICIES

**Financial Statement Estimates** - The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Such management estimates include certain accruals. Actual results could differ from those estimates.

**Revenue recognition** - In April 1997, BioTime and Abbott Laboratories ("Abbott") entered into an Exclusive License Agreement (the "License Agreement") under which BioTime granted to Abbott an exclusive license to manufacture and sell BioTime's proprietary blood plasma volume expander solution Hextend in the United States and Canada for certain therapeutic uses.

Under the License Agreement, Abbott has paid the Company \$2,500,000 of license fees based upon achievement of specified milestones. Such fees have been recognized as revenue as the milestones were achieved. Up to \$37,500,000 of additional license fees will be payable based upon annual net sales of Hextend at the rate of 10% of annual net sales if annual net sales exceed \$30,000,000 or 5% if annual net sales are between \$15,000,000 and \$30,000,000. Abbott's obligation to pay license fees on sales of Hextend will expire on the earlier of January 1, 2007 or, on a country by country basis, when all patents protecting Hextend in the applicable country expire or any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

In addition to the license fees, Abbott will pay the Company a royalty on annual net sales of Hextend. The royalty rate will be 5% plus an additional .22% for each increment of \$1,000,000 of annual net sales, up to a maximum royalty rate of 36%. Abbott's obligation to pay royalties on sales of Hextend will expire in the United States or Canada when all patents protecting Hextend in the applicable country expire and any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

The Company recognizes such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place, as the Company does not have sufficient sales history to accurately predict quarterly sales. Revenues for the year ended December 31, 2001 include royalties on sales made by Abbott during the twelve months ended September 30, 2001. Royalties on sales made during the fourth quarter of 2001 will not be recognized by the Company until the first quarter of fiscal year 2002. Royalties on sales made during the quarter ended December 31, 2001 were not material to BioTime's financial results.

Abbott has agreed that the Company may convert Abbott's exclusive license to a non-exclusive license or may terminate the license outright if certain minimum sales and royalty payments are not met. In order to terminate the license outright, BioTime would pay a termination fee in an amount ranging from the milestone payments made by Abbott to an amount equal to three times prior year net sales, depending upon when termination occurs. Management believes that the probability of payments of any termination fee by the Company is remote.

**Cash and cash equivalents** - The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

**Concentration of credit risk** - Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents. The Company limits the amount of credit exposure of cash balances by maintaining its accounts in high credit quality financial institutions.

Equipment is stated at cost or, in the case of donated equipment, at fair market value. Equipment is being depreciated using the straight-line method over a period of thirty-six to eighty-four months.

Patent costs associated with obtaining patents on products being developed are expensed as research and development expenses when incurred. These costs totaled \$343,501, \$215,424 and \$160,221 for the years ended December 31, 2001, 2000 and 1999, respectively, and cumulatively, \$1,220,209 for the period from inception (November 30, 1990) to December 31, 2001.

Research and development costs are expensed when incurred and consist principally of salaries, payroll taxes, research and laboratory fees, hospital and consultant fees related to clinical trials, and the Company's PentaLyte solution for use in human clinical trials.

Income Taxes - The Company accounts for income taxes in accordance with Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes," which prescribes the use of the asset and liability method whereby deferred tax asset or liability account balances are calculated at the balance sheet date using current tax laws and rates in effect. Valuation allowances are established when necessary to reduce deferred tax assets when it is more likely than not that a portion or all of the deferred tax assets will not be realized.

Stock-based compensation - The Company grants stock options for a fixed number of shares to employees with an exercise price equal to the fair value of the shares at the date of grant. The Company accounts for employee stock-based compensation in accordance with Accounting Principles Board Opinion No. 25 ("APB 25"), "Accounting for Stock Issued to Employees." The Company accounts for stock-based awards to nonemployees in accordance with Statement of Financial Accounting Standards No. 123 ("SFAS 123"), "Accounting for Stock-Based Compensation" and Emerging Issues Task Force (EITF) Issue No. 96-18, "Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods, or Services."

Stock split - In October 1997, the Company effected a three-for-one split of its common shares. All share and per share amounts have been restated to reflect the stock split for all periods presented.

Net Loss per share - Basic net loss per share is computed by dividing net loss available to common stockholders by the weighted-average common shares outstanding for the period. Diluted net loss per share reflects the weighted-average common shares outstanding plus the potential effect of dilutive securities or contracts which are convertible to common shares such as options, warrants, convertible debt, and preferred stock (using the treasury stock method) and shares issuable in future periods, except in cases where the effect would be anti-dilutive. Diluted loss per share for the years ended December 31, 2001, 2000, and 1999 exclude any effect from such securities as their inclusion would be antidilutive.

Comprehensive Loss - Statement of Financial Accounting Standards No. 130, "Reporting Comprehensive Income," establishes standards for reporting and displaying comprehensive income and its components (revenues, expenses, gains, and losses) in a full set of general-purpose financial statements. Comprehensive loss was the same as net loss for all periods presented.

Fair value of financial instruments - The carrying amount of the Company's long-term debt (debentures) approximates its fair value.

Segment information - The Company operates in the single segment of producing aqueous based synthetic solutions used in medical applications and is currently in the development stage of this segment.

#### Recently issued accounting standards

Derivative instruments and hedging activities - On January 1, 2001, the Company adopted Statement of Financial Accounting Standards No. 133 ("SFAS 133"), "Accounting for Derivative Instruments and Hedging Activities." SFAS 133, as amended, requires that every derivative instrument, including certain derivative instruments embedded in other contracts, be recorded on the balance sheet at its fair value. Changes in the fair value of derivatives are recorded each period in current earnings or other comprehensive income, depending on whether a derivative is designated as part of a hedge transaction and, if it is, the type of hedge transaction. SFAS 133, as amended, requires that the Company formally document, designate, and assess the effectiveness of transactions that receive hedge accounting. The Company adopted SFAS 133, as amended, on January 1, 2001 and did not elect hedge accounting as defined by SFAS 133. The adoption of this statement did not have a material impact on the Company's financial position or results of operations.

Business combinations and goodwill - In June 2001, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 141 (SFAS 141), "Business Combinations" and Statement of Financial Accounting Standards No. 142 ("SFAS 142"), "Goodwill and Other Intangible Assets." SFAS 141 requires that all business combinations initiated after June 30, 2001 be accounted for under the purchase method and addresses the initial recognition and measurement of goodwill and other intangible assets acquired in a business combination. SFAS 141 addresses the initial recognition and measurement of intangible assets acquired outside of a business combination and the accounting for goodwill and other intangible assets subsequent to their acquisition. SFAS 142 provides that intangible assets with finite useful lives be amortized and that goodwill and intangible assets with indefinite lives will not be amortized, but will rather be tested at least annually for impairment. The Company will adopt SFAS 141 and 142 on January 1, 2002. The adoption of this statement will not have a material impact on the financial statements.

Impairment and disposal of long lived assets - In October 2001, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 144 ("SFAS 144"), "Accounting for the Impairment or Disposal of Long-Lived Assets." SFAS 144 supersedes SFAS 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of," and the accounting and reporting provisions of Accounting Principles Board Opinion No. 30, "Reporting the Results of Operations - Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions," and addresses financial accounting and reporting for the impairment or disposal of long-lived assets. The Company will adopt SFAS 144 on January 1, 2002. The adoption of this statement will not have a material impact on the financial statements.



### 3. LINE OF CREDIT AND DEBENTURES

During March, 2001, BioTime entered into a one year Revolving Line of Credit Agreement (the "Credit Agreement") with Alfred D. Kingsley, an investor and consultant to the Company, under which BioTime could borrow up to \$1,000,000 for working capital purposes at an interest rate of 10% per annum. In consideration for making the line of credit available, the company issued to Mr. Kingsley a fully vested warrant to purchase 50,000 common shares at an exercise price of \$8.31. The fair value of this warrant of \$254,595 was determined using the Black-Scholes pricing model with the following assumptions: contractual life of 5 years; risk-free interest rate of 5.50%; volatility of 87.55%; and no dividends during the expected term. The fair value amount of the warrant was recorded as deferred financing costs and was being amortized to interest expense over the term of the Credit Agreement.

In August 2001, the company issued \$3,350,000 of debentures to an investor group. As part of the \$3,350,000 debenture issuance, Mr. Kingsley agreed to convert the \$1,000,000 current outstanding balance under the Credit Agreement to \$1,000,000 of debentures and purchased an additional \$500,000 of debentures for cash. On the date of the conversion of the Credit Agreement to the debentures, the Credit Agreement was terminated, and no additional borrowings are available under the Credit Agreement. Interest on the debentures is payable at an annual rate of 10% and is payable semi-annually. The principal amount of the debentures is due on August 1, 2004. BioTime may prepay the debentures, in whole or in part, at any time without premium or penalty. Under the terms of the debentures, BioTime has agreed that commencing October 1, 2001, it will restrict its quarterly cash payments for operating expenses to not more than \$450,000 (excluding interest payable on the debentures) plus the amount of cash revenue (excluding interest and dividends) it collects for the quarter. This restriction will expire when the Company obtains at least \$5,000,000 in cash through sales of equity securities or pays off the debenture indebtedness in full. The Company has also agreed not to pay any cash dividends on or to redeem or repurchase any of its common shares outstanding until it has paid off the debentures in full.

Investors who purchased the debentures also received warrants to purchase a total of 515,385 common shares at an exercise price of \$6.50. The warrants expire on August 1, 2004. The total fair value of the warrants of \$1,596,124 was determined using the Black-Scholes option pricing model with the following assumptions: contractual life of 3 years; risk-free interest rate of 4.04%; volatility of 88%; and no dividends during the expected term. Of the \$3,350,000 of proceeds \$1,596,124 was allocated to the warrants which includes the unamortized portion (\$159,122) of the fair value of the warrant issued in connection with the Credit Agreement. The portion of the proceeds allocated to the debentures is being accreted to interest expense over the term of the debentures using the effective interest rate method. The Company has the right to call the warrants for redemption at a redemption price of \$0.01 per share if the closing price of the Company's common shares equals or exceeds 150% of the exercise price for fifteen consecutive trading days.

### 4. SHAREHOLDERS' EQUITY

During June 1994, the Board of Directors authorized management to repurchase up to 200,000 of the Company's common shares at market price at the time of purchase. A total of 90,800 shares have been repurchased and retired. No shares have been repurchased since August 28, 1995.

During September 1995, the Company entered into an agreement for financial advisory services with Greenbelt Corp., a corporation controlled by Alfred D. Kingsley and Gary K. Duberstein, who are also shareholders of the Company. Under this agreement the Company issued to the financial advisor warrants

to purchase 311,276 Common Shares at a price of \$1.93 per share, and the Company agreed to issue additional warrants to purchase up to an additional 622,549 Common Shares at a price equal to the greater of (a) 150% of the average market price of the Common Shares during the three months prior to issuance and (b) \$2 per share. The additional warrants were issued in equal quarterly installments over a two year period, beginning October 15, 1995.

Greenbelt has purchased 544,730 Common Shares by exercising some of those warrants at prices ranging from \$1.93 to \$2.35 per share. Greenbelt continues to hold warrants, expiring during April and June 2002, to purchase an aggregate of 155,636 Common Shares at prices ranging from \$13.75 to \$15.74. The other warrants have expired unexercised. The number of shares and exercise prices shown have been adjusted for the Company's subscription rights distributions during January 1997 and February 1999 and the payment of a stock dividend during October 1997.

During September 1996, the Company entered into an agreement with an individual to act as an advisor to the Company. In exchange for services, as defined, to be rendered by the advisor through September 1999, the Company issued warrants, with five year terms, to purchase 124,510 common shares at a price of \$6.02 per share. The exercise price and number of common shares for which the warrants may be exercised are subject to adjustment to prevent dilution in the event of a stock split, combination, stock dividend, reclassification of shares, sale of assets, merger or similar transaction. Warrants for 77,775 common shares vested and became exercisable and transferable when issued; warrants for the remaining 46,735 common shares vested ratably through September 1997 and became exercisable and transferable as vesting occurred. The estimated value of the services to be performed is \$60,000 and that amount has been amortized over the three year term of the agreement.

On February 5, 1997, the Company completed a subscription rights offering raising \$5,662,180, through the sale of 849,327 common shares.

During April 1998, the Company entered into a financial advisory services agreement with Greenbelt Corp. The agreement provided for an initial payment of \$90,000 followed by an advisory fee of \$15,000 per month that was paid quarterly. On August 11, 2000, the Board of Directors approved the renewal and amendment of this agreement for a period of twelve months ending March 31, 2001. Under the amended agreement, Greenbelt Corp. received 30,000 common shares in four quarterly installments of 7,500 shares each. On January 16, 2002, the agreement was renewed and amended to provide for the issuance of 40,000 common shares payable in quarterly installments of 10,000 ending on March 31, 2002. Under the agreement, upon the request of Greenbelt Corp., the Company will file a registration statement to register the shares for public sale. The Company recognized \$299,175 and \$105,000 of stock compensation expense (general & administrative) during the years ended December 31, 2001 and 2000, respectively, under the agreement.

On March 9, 1999, the Company completed a subscription rights offering raising \$7,328,626, through the sale of 751,654 common shares.

On July 15, 1999, the Company established the "BioTime Endowment for the Study of Aging and Low- Temperature Medicine" (the "Endowment") at the University of California at Berkeley. The endowment will support the research activities of faculty and researchers in the areas of aging and low temperature medicine. The initial term of the Endowment shall be for ten years, and upon review, renewed every five years

thereafter. The Company funded the Endowment with \$65,000 in cash and a warrant to the University to purchase 40,000 of the Company's common shares for \$0.50 per share. On September 23, 1999, the University of California at Berkeley exercised its warrant for 40,000 shares. The fair value of the warrant, estimated to be approximately \$552,000, was recognized in research and development expenses during the year ended December 31, 1999.

#### 5. STOCK OPTION PLAN

The Board of Directors of the Company adopted the 1992 Stock Option Plan (the "Plan") during September 1992. The Plan was approved by the shareholders at the 1992 Annual Meeting of Shareholders on December 1, 1992. Under the Plan, as amended, the Company has reserved 1,800,000 common shares for issuance under options granted to eligible persons. No options may be granted under the Plan more than ten years after the date the Plan was adopted by the Board of Directors, and no options granted under the Plan may be exercised after the expiration of ten years from the date of grant. Under the Plan, options to purchase common shares may be granted to employees, directors and certain consultants at prices not less than the fair market value at date of grant for incentive stock options and not less than 85% of fair market value for other stock options. These options expire five to ten years from the date of grant and may be fully exercisable immediately, or may be exercisable according to a schedule or conditions specified by the Board of Directors or the Option Committee. During the years ended December 31, 2001, 2000 and 1999, employees and directors were granted options to purchase 80,000, 48,000 and 33,000 common shares, respectively, and non-employees were granted options to purchase 50,000, 1,500 and 63,000 shares, respectively. At December 31, 2001, 439,000 shares were available for future grants under the Option Plan.

Options to purchase 60,000 common shares, granted to consultants in 1999, vest upon achievement of certain milestones. At December 31, 2001, 5000 options had vested and 55,000 had not vested. The Company is amortizing into research and development expense the estimated fair value of such options, subject to remeasurement at the end of each reporting period, over the period estimated to achieve such milestones (one to two years). During 2001 the Company recorded a benefit of \$132,249 as a result of the remeasurement of such options. The Company recorded \$203,229 and \$171,027 as compensation expense related to these options during the years ended December 31, 2000 and 1999, respectively. The Company has \$112,166 in unamortized compensation expense at December 31, 2001. The Company's estimate of compensation cost at December 31, 2001 is based on the Black-Scholes option pricing model with the following assumptions: contractual life of 7 years; risk-free interest rate of 5.09%; volatility of 73%; and no dividends during the expected term.

Option activity under the Plan is as follows:

	Number of Shares	Weighted Average Exercise Price
	-----	-----
Outstanding, December 31, 1998 (440,500 exercisable at a weighted average price of \$5.76)	470,500	\$ 5.46
Granted (weighted average fair value of \$9.52 per share)	96,000	11.81

	Number of Shares	Weighted Average Exercise Price
Exercised	(68,000)	12.65
Canceled	--	--
Outstanding, December 31, 1999 (438,500 exercisable at a weighted average price of \$6.33)	498,500	6.98
Granted (weighted average fair value of \$7.03 per share)	52,500	9.95
Exercised	(51,000)	1.00
Canceled	(30,000)	1.00
Outstanding, December 31, 2000	470,000	8.34
Granted (weighted average fair value of \$3.81 per share)	150,000	6.30
Exercised	(60,799)	1.21
Canceled	(73,500)	7.15
Outstanding, December 31, 2001	485,701	8.78

Additional information regarding options outstanding as of December 31, 2001 is as follows:

Range of Exercise Prices	Options Outstanding		Options Exercisable		
	Number Outstanding	Weighted Avg. Remaining Contractual Life (yrs)	Weighted Avg. Exercise Price	Number Exercisable	Weighted Avg. Exercise Price
\$1.13	38,701	2.42	\$1.13	38,701	\$1.13
4.92-8.81	153,500	4.56	6.15	153,500	6.15
9.00-13.00	274,500	2.88	10.68	219,500	10.61
18.25	19,000	0.90	18.25	19,000	18.25
\$1.0-\$18.25	485,701	3.30	\$8.78	430,701	\$8.40

Had compensation cost for employee options granted in 2001, 2000, and 1999 under the Company's Option Plan been determined based on the fair value at the grant dates, as prescribed in Statement of Financial Accounting Standards No. 123, "Accounting for Stock-Based Compensation," the Company's net loss and pro forma net loss per share would have been as follows:

	2001 ----	Year Ended December 31, ----- 2000 ----	1999 ----
Net Loss:			
As reported	\$3,658,825	\$4,925,024	\$5,479,884
Pro forma	\$3,971,595	\$5,103,989	\$5,706,878
Basic and diluted net loss:			
As reported	\$0.32	\$0.44	\$0.51
Pro forma	\$0.34	\$0.46	\$0.54

The fair value of each option grant is estimated using the Black-Scholes option pricing model with the following assumptions during the applicable period:

	2001 ----	2000 ----	1999 ----
Average risk-free rate of return	4%-5%	6.72%	5.99%
Weighted average expected option life	5 years	5 years	5 years
Volatility rate	45%-60%	87.4%	84.7%
Dividend yield	0%	0%	0%

#### 6. COMMITMENTS AND CONTINGENCIES

The Company has an employment agreement with one officer who is also a shareholder, for a five-year term, which expires in April 2002. This agreement provides for a base salary with annual increases. The agreement also provides that in the event the officer's employment terminates, voluntarily or involuntarily, after a change in control of the Company through an acquisition of voting stock or assets, or a merger or consolidation with another corporation or entity, the officer will be entitled to severance payments equal to the greater of (a) 2.99 times the average annual compensation for the preceding five years or (b) the balance of the base salary for the unexpired portion of the term of the employment agreement. This officer/shareholder has signed an intellectual property agreement with the Company as a condition of employment.

The Company occupies its office and laboratory facility in Berkeley, California under a lease that will expire on March 31, 2004. The Company presently occupies approximately 8,890 square feet of space with a

monthly rent of \$11,024. The rent increases annually by the greater of 3% and the increase in the local consumer price index, subject to a maximum annual increase of 7%. Due to an increase in the local consumer price index of only 1.8% over the period defined in the lease agreement, rent will only be increased by the minimum amount of 3% (yielding a new rent, payable beginning with the month of April, 2002, of \$11,355). Rent expense totaled \$122,096, \$113,600 and \$91,796 for the years ended December 31, 2001, 2000 and 1999, respectively.

## 7. INCOME TAXES

The primary components of the net deferred tax asset are:

	Year Ended December 31, 2001	Year Ended December 31, 2000
Deferred Tax Asset:		
Net operating loss carryforwards	\$ 14,056,615	\$ 11,938,185
Research & Development Credits	1,224,065	873,269
Other, net	81,466	(100,841)
	-----	-----
Total	15,362,146	12,710,613
Valuation allowance	(15,362,146)	(12,710,613)
	-----	-----
Net deferred tax asset	\$ -0-	\$ -0-
	=====	=====

No tax benefit has been recorded through December 31, 2001 because of the net operating losses incurred and a full valuation allowance provided. A valuation allowance is provided when it is more likely than not that some portion of the deferred tax asset will not be realized. The Company established a 100% valuation allowance for all periods presented due to the uncertainty of realizing future tax benefits from its net operating loss carryforwards and other deferred tax assets.

As of December 31, 2001, the Company has net operating loss carryforwards of approximately \$37,200,000 for federal and \$18,000,000 for state tax purposes, which begin to expire during fiscal years 2005 and 2001, respectively. In addition, the Company has tax credit carryforwards for federal and state tax purposes of \$778,682 and \$445,383, respectively, which will begin to expire in 2005.

Internal Revenue Code Section 382 places a limitation (the "Section 382 Limitation") on the amount of taxable income which can be offset by net operating loss ("NOL") carryforwards after a change in control (generally greater than 50% change in ownership) of a loss corporation. California has similar rules. Generally, after a control change, a loss corporation cannot deduct NOL carryforwards in excess of the Section 382 Limitation. Due to these "change in ownership" provisions, utilization of the NOL and tax credit

carryforwards may be subject to an annual limitation regarding their utilization against taxable income in future periods.

#### 8. RELATED PARTY TRANSACTIONS

During the years ended December 31, 2000 and 1999, fees for consulting services of \$5,500 and \$19,125, respectively, were paid to a member of the Board of Directors. No consulting fees were paid to any members of the Board of Directors during the year ended December 31, 2001.

#### 9. SUBSEQUENT EVENTS

On March 27, 2002, BioTime entered into a new Revolving Line of Credit Agreement (the "Credit Agreement") with Alfred D. Kingsley under which BioTime may borrow up to \$300,000 for working capital purposes. Amounts borrowed under the Credit Agreement will be due on March 31, 2003 or when BioTime receives at least \$600,000 through the sale of capital stock, loans from other lenders, fees under licensing agreements (excluding royalty payments), or any combination of those sources. Interest on borrowings shall accrue at a rate of 10% per annum and is payable with principal on the maturity date. Mandatory prepayments of principal will be due to the extent that the Company receives funds from any one or more of those sources in excess of \$300,000 but less than \$600,000.

In connection with entering into the Credit Agreement on March 27, 2002, the Company granted Alfred D. Kingsley a warrant to purchase 30,000 shares of the Company's common stock at \$4.00 per share. The warrants are fully exercisable and non-forfeitable on the date of grant and expire on March 26, 2007.

#### 10. QUARTERLY RESULTS (UNAUDITED)

Summarized unaudited results of operations for each quarter of the years ended December 31, 2001 and 2000 are as follows:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
Fiscal Year Ended December 31, 2001 -----					
Revenue	\$32,695	\$29,958	\$36,416	\$52,848	\$151,917
Net Loss	\$951,739	\$1,120,024	\$861,273	\$715,280	\$3,648,316
Net Loss per share	\$.08	\$.10	\$.07	\$.06	\$.32

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
Fiscal Year Ended December 31, 2000					
Revenue	\$5,732	\$7,387	\$19,592	\$19,781	\$52,492
Net Loss	\$1,319,947	\$1,329,761	\$1,224,955	\$1,050,361	\$4,925,024
Net Loss per share	\$.12	\$.12	\$.11	\$.10	\$.44



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

None.

PART III

Item 10. Directors and Executive Officers of the Registrant.

Directors and Executive Officers

The names and ages of the directors and executive officers of the Company are as follows:

Paul Segall, Ph.D., 59, is the Chairman and Chief Executive Officer and has served as a director of the Company since 1990. Dr. Segall received a Ph.D. in Physiology from the University of California at Berkeley in 1977.

Ronald S. Barkin, 56, served as President of BioTime from October 1997 through March 2002, after serving as Executive Vice President since April 1997. Mr. Barkin has been a director of the Company since 1990. Before becoming an executive officer of the Company, Mr. Barkin practiced civil and corporate law for more than 25 years after getting a J.D. from Boalt Hall, University of California at Berkeley.

Hal Sternberg, Ph.D., 48, is the Vice President of Research and has been a director of the Company since 1990. Dr. Sternberg was a visiting scientist and research Associate at the University of California at Berkeley from 1985-1988, where he supervised a team of researchers studying Alzheimer's Disease. Dr. Sternberg received his Ph.D. from the University of Maryland in Biochemistry in 1982.

Harold Waitz, Ph.D., 59, is the Vice President of Engineering and Regulatory Affairs and has been a director of the Company since 1990. He received his Ph.D. in Biophysics and Medical Physics from the University of California at Berkeley in 1983.

Judith Segall, 48, is the Vice President of Technology and Secretary, and has been a director of the Company from 1990 through 1994, and from 1995 through the present date. Ms. Segall received a B.S. in Nutrition and Clinical Dietetics from the University of California at Berkeley in 1989.

Steven A. Seinberg, J.D., 35, became Chief Financial Officer and Treasurer during August 2001. Prior to assuming these positions, Mr. Seinberg worked for over five years as BioTime's Director of Financial and Legal Research, a position that involved, among other duties, contract modifications and management of the Company's intellectual property portfolio. Mr. Seinberg received a J.D. from Hastings College of the Law in San Francisco in 1994.

Jeffrey B. Nickel, Ph.D., 57, joined the Board of Directors of the Company during March 1997. Dr. Nickel is the President of Nickel Consulting through which he has served as a consultant to companies in the pharmaceutical and biotechnology industries since 1990. Prior to starting his consulting business, Dr. Nickel served in a number of management positions for Syntex Corporation and Merck & Company. Dr. Nickel received his Ph.D. in Organic Chemistry from Rutgers University in 1970.

Milton H. Dresner, 76, joined the Board of Directors of the Company during February 1998. Mr. Dresner is a private investor and principal of Milton Dresner Investments. Mr. Dresner was formerly the Co-Chairman of the Highland Companies, a diversified organization that was engaged in the development and ownership of residential and industrial real estate. Mr. Dresner serves as a director of Avatar Holdings, Inc., a real estate development company, and Childtime Learning Centers, Inc. a child care and pre-school education services company.

Katherine Gordon, Ph.D., 47, joined the Board of Directors of the Company during June 2001. Dr. Gordon is the Chief Executive Officer and a director of Apollo BioPharmaceuticals, Inc. (a wholly-owned subsidiary of MitoKor), a company engaged in the research and development of drugs to treat brain cell damage and diseases. Prior to founding Apollo in 1992, Dr. Gordon was an Associate Director at Genzyme Corporation. Dr. Gordon obtained her Ph.D. from Wesleyan University in 1982 and was a post-doctoral fellow at Yale University.

#### Executive Officers

Paul Segall, Ronald S. Barkin, Steven Seinberg, Hal Sternberg, Harold Waitz and Judith Segall are the only executive officers of BioTime.

There are no family relationships among the directors or officers of the Company, except that Paul Segall and Judith Segall are husband and wife.

#### Directors' Meetings, Compensation and Committees of the Board

The Board of Directors has an Audit Committee, the members of which are Jeffrey Nickel, Milton Dresner, and Katherine Gordon. The purpose of the Audit Committee is to recommend the engagement of the corporation's independent auditors and to review their performance, the plan, scope and results of the audit, and the fees paid to the corporation's independent auditors. The Audit Committee also will review the Company's accounting and financial reporting procedures and controls and all transactions between the Company and its officers, directors, and shareholders who beneficially own 5% or more of the Common Shares.

The Company does not have a standing Nominating Committee. Nominees to the Board of Directors are selected by the entire Board.

The Board of Directors has a Stock Option Committee that administers the Company's 1992 Stock Option Plan and makes grants of options to key employees, consultants, scientific advisory board members and independent contractors of the Company, but not to officers or directors of the Company. The members of the Stock Option Committee are Paul Segall, Ronald S. Barkin, and Hal Sternberg. The Stock Option Committee was formed during September 1992.

During the fiscal year ended December 31, 2001, the Board of Directors met 8 times. No director attended fewer than 75% of the meetings of the Board or any committee on which they served.

Directors of the Company who are not employees receive an annual fee of \$20,000, which may be paid in cash or in Common Shares, at the election of the director. Milton Dresner received 3,224 Common Shares in lieu of the cash fee during the year ended December 31, 2001. During the year ended December 31, 2001, Katherine Gordon received options to purchase 15,000 Common Shares, and Jeffrey Nickel and Milton Dresner each received options to purchase 10,000 Common Shares. Directors of the Company and members of

committees of the Board of Directors who are employees of the Company are not compensated for serving as directors or attending meetings of the Board or committees of the Board. Directors are entitled to reimbursements for their out-of-pocket expenses incurred in attending meetings of the Board or committees of the Board. Directors who are employees of the Company are also entitled to receive compensation in such capacity.

For 2002, the Directors will receive 20,000 options exercisable at the closing price for BioTime stock on the American Stock Exchange on the last day of March, 2002. During this year, the Directors will not receive cash fees. Of the 20,000 options being given, 12,500 will be fully vested and exercisable upon grant. The remaining 7500 options will vest and become exercisable in nine equal monthly installments based on continued service on the Board of Directors.

Executive Compensation

The Company had five-year employment agreements with Paul Segall, Chairman and Chief Executive Officer; Judith Segall, Vice President of Technology and Corporate Secretary; Hal Sternberg, Vice President of Research; and Harold Waitz, Vice President of Engineering and Regulatory Affairs that expired on December 31, 2000 and were renewed for a one-year term that ended on December 31, 2001. The Company also has an employment agreement with Ronald S. Barkin, President, that will expire on March 31, 2002. Mr. Barkin will not continue as President after termination of his employment agreement. The executive officers were entitled to receive annual salaries of \$163,000 for the year ended December 31, 2001, but in July, 2001 Drs. Segall, Sternberg and Waitz and Judith Segall agreed to participate in the Company's voluntary salary reduction program. Since these voluntary salary reductions went into effect, Dr. Segall has received a salary of \$3,000 per month and Drs. Sternberg and Waitz and Judith Segall have each received a salary of \$6,000 per month. The Board of Directors has approved a continuation of those reduced salaries until the Board of Director determines that the Company is in a financial position to commit to other compensation arrangements commensurate with each officer's experience and past performance and prevailing compensation rates in the San Francisco Bay area.

Each executive officer has also executed an Intellectual Property Agreement which provides that the Company is the owner of all inventions developed by the executive officer during the course of his or her employment.

The following table summarizes certain information concerning the compensation paid to the five most highly compensated executive officers during the last three full fiscal years.

SUMMARY COMPENSATION TABLE

Name and Principal Position	Annual Compensation		Long-Term Compensation	
	Year Ended	Salary(\$)	Bonus	Stock Options (Shares)
Paul Segall Chairman and Chief Executive Officer	December 31, 2001	\$101,792		
	December 31, 2000	\$163,000		
	December 31, 1999	\$156,000		
Ronald S. Barkin President	December 31, 2001	\$163,000		
	December 31, 2000	\$163,000		
	December 31, 1999	\$156,000		
Hal Sternberg	December 31, 2001	\$115,292		

Vice President of Research	December 31, 2000	\$163,000
	December 31, 1999	\$156,000
Harold Waitz	December 31, 2001	\$125,083
Vice President of Engineering	December 31, 2000	\$163,000
	December 31, 1999	\$156,000
Judith Segall	December 31, 2001	\$115,292
Vice President and Corporate Secretary	December 31, 2000	\$163,000
	December 31, 1999	\$156,000

#### Insider Participation in Compensation Decisions

The Board of Directors does not have a standing Compensation Committee. Instead, the Board of Directors as a whole and the Audit Committee approve all executive compensation. All of the executive officers of the Company serve on the Board of Directors but do not vote on matters pertaining to their own personal compensation. Paul Segall and Judith Segall do not vote on matters pertaining to each other's compensation. None of the members of the Audit Committee are employees of the Company.

#### Stock Options

Of the five most highly compensated executive officers of the Company, only Ronald S. Barkin held any stock options during the fiscal year ended December 31, 2001. The following table contains certain information concerning Mr. Barkin's stock options.

#### Aggregated Options Exercised in Last Fiscal Year, and Fiscal Year-End Option Values

Name	Number of Shares Acquired on Exercise	Value Realized (\$)	Number of Unexercised Options at December 31, 2001		Value of Unexercised In-the-Money Options at December 31, 2001	
			Exercisable	Unexercisable	Exercisable	Unexercisable
Ronald S. Barkin	0	0	90,000	0	0	0

#### Certain Relationships and Related Transactions

During September 1995, the Company entered into an agreement for financial advisory services with Greenbelt Corp. ("Greenbelt"), a corporation controlled by Alfred D. Kingsley and Gary K. Duberstein, who are also shareholders of the Company. Under this agreement the Company issued to the financial advisor warrants to purchase 311,276 Common Shares at a price of \$1.93 per share, and the Company agreed to issue additional warrants to purchase up to an additional 622,549 Common Shares at a price equal to the greater of (a) 150% of the average market price of the Common Shares during the three months prior to issuance and (b) \$2 per share. The additional warrants were issued in equal quarterly installments over a two year period, beginning October 15, 1995.

The number of shares and exercise prices shown have been adjusted for the Company's subscription rights distributions during January 1997 and February 1999 and the payment of a stock dividend during October 1997. Greenbelt has purchased 544,730 Common Shares by exercising some of those warrants at prices ranging from \$1.93 to \$2.35 per share. Greenbelt continues to hold warrants, expiring during April and June 2002, to purchase an aggregate of 155,636 Common Shares at price ranging from \$13.75 to \$15.74. The other warrants have expired unexercised.

During April 1998, the Company entered into a new financial advisory services agreement with Greenbelt. The new agreement provided for an initial payment of \$90,000 followed by an advisory fee of \$15,000 per month paid quarterly. The Company agreed to reimburse Greenbelt for all reasonable out-of-pocket expenses incurred in connection with its engagement as financial advisor, and to indemnify Greenbelt and its officers, affiliates, employees, agents, assignees, and controlling person from any liabilities arising out of or in connection with actions taken on BioTime's behalf under the agreement. The agreement has been renewed twice and will expire on March 31, 2002, but instead of paying cash compensation, the Company agreed to issue Greenbelt 30,000 Common Shares in four quarterly installments of 7,500 shares each for the twelve months ended March 31, 2001, and 40,000 Common Shares in four quarterly installments of 10,000 each for the twelve months ended March 31, 2002.

During March 2001, the Company entered into a Line of Credit Agreement with Alfred D. Kingsley under which Mr. Kingsley agreed to lend the Company \$1,000,000. In consideration of Mr. Kingsley's agreement to provide that line of credit, the Company issued to him a warrant to purchase 50,000 Common Shares at an exercise price of \$8.31 per share. The warrant will expire in five years. The exercise price and number of Common Shares for which the warrant may be exercised are subject to adjustment to prevent dilution in the event of a stock split, combination, stock dividend, reclassification of shares, sale of assets, merger or similar transaction.

During August 2001, the Company received loans of \$3,350,000 through the sale of debentures to a group of private investors, including Mr. Kingsley, who purchased \$1,500,000 of debentures, and Milton Dresner, a director of the Company. Mr. Kingsley's investment included the conversion of the \$1,000,000 principal balance of the line of credit that he had previously provided.

Interest on the debentures is payable at an annual rate of 10% and is payable semiannually. The principal amount of the debentures will be due and payable on August 1, 2004. BioTime may prepay the debentures, in whole or in part, at any time without premium or penalty. Under the terms of the debentures, BioTime has agreed that commencing October 1, 2001 it will restrict its quarterly cash payments for operating expenses to not more than \$450,000 (excluding interest payable on the debentures) plus the amount of cash revenues (excluding interest and dividends) it collects for the quarter. To the extent BioTime's expenditures during any quarter are less than \$450,000 over its revenues, it may expend the difference in one or more subsequent quarters. That restriction will expire when BioTime obtains at least \$5,000,000 in cash through sales of equity securities or pays off the debenture indebtedness in full. For this purpose, cash revenues will include royalties, license fees, and other proceeds from the sale or licensing of its products and technology, but will not include interest, dividends, and any monies borrowed or the proceeds from the issue or sale of any debt or equity securities. BioTime has also agreed not to declare or pay any cash dividends on its capital stock or to redeem or repurchase any shares of its capital stock, until it has paid off the debenture indebtedness in full.

Investors who purchased the debentures also received warrants to purchase a total of 515,383 common shares at an exercise price of \$6.50 per share. The warrants will expire if not exercised by August 1, 2004. The Company has the right to call the warrants for redemption at a redemption price of \$0.01 per share if the closing price of the Company's Common Shares on the American Stock Exchange equals or exceeds 150% of the exercise price for fifteen (15) consecutive trading days and the shares issuable upon the exercise of the warrants have been registered for sale under the Securities Act of 1933, as amended (the "Act").

The Company has registered for sale under the Act, the warrants and Common Shares described above, including Common Shares that may be issued upon the exercise of the warrants or in installments under the financial advisory agreement. The Company also included in the registration 300,000 Common Shares the Mr. Kingsley acquired during December 2000 from certain BioTime officers and directors. The Company paid the expenses of registration, but will not be obligated to pay any underwriting discounts or commissions that may be incurred by Greenbelt, Mr. Kingsley, or Mr. Dresner in connection with any sale of the warrants or Common Shares.

During March 2002, the Company entered into a new Credit Agreement with Alfred D. Kingsley. In consideration of Mr. Kingsley's agreement to provide that line of credit, the Company issued to him a warrant to purchase 30,000 Common Shares at an exercise price of \$4.00 per share. The warrant will expire in five years. The exercise price and number of Common Shares for which the warrant may be exercised are subject to adjustment to prevent dilution in the event of a stock split, combination, stock dividend, reclassification of shares, sale of assets, merger, or similar transaction. The Company has agreed to register the shares issuable under the warrant for sale under the Act, upon request, on substantially the same terms as the registration of the warrants issued under the Company's consulting agreement with Greenbelt.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The following table sets forth information as of March 1, 2002 concerning beneficial ownership of Common Shares by each shareholder known by the Company to be the beneficial owner of 5% or more of the Company's Common Shares, and the Company's executive officers and directors. Information concerning certain beneficial owners of more than 5% of the Common Shares is based upon information disclosed by such owners in their reports on Schedule 13D or Schedule 13G.

	Number of Shares -----	Percent of Total -----
Alfred D. Kingsley (1)		
Gary K. Duberstein		
Greenbelt Corp.		
Greenway Partners, L.P.		
Greenhouse Partners, L.P.		
909 Third Avenue, 30th Floor		
New York, New York 10022	2,015,252	16.4%
Paul and Judith Segall (2)	645,408	5.6%

Harold D. Waitz (3)	424,166	3.6%
Hal Sternberg	214,907	1.8%
Ronald S. Barkin (4)	176,861	1.5%
Steven Seinberg(5)	24,000	*
Jeffrey B. Nickel (6)	45,000	*
Milton H. Dresner (7)	70,206	*
Katherine Gordon (8)	15,000	*
All officers and directors as a group (9 persons)(9)	1,615,548	13.6%

- - - - -

\* Less than 1%

- (1) Includes 155,636 Common Shares issuable upon the exercise of certain warrants owned beneficially by Greenbelt Corp, 674,460 Common Shares owned by Greenbelt Corp., 90,750 Common Shares owned by Greenway Partners, L.P., 772,742 Common Shares owned solely by Alfred D. Kingsley, 310,769 Common Shares issuable upon the exercise of certain warrants owned solely by Mr. Kingsley, and 10,895 Common Shares owned solely by Gary K. Duberstein. Alfred D. Kingsley and Gary K. Duberstein control Greenbelt Corp. and may be deemed to beneficially own the warrants and shares that Greenbelt Corp. beneficially owns. Greenhouse Partners, L.P. is the general partner of Greenway Partners, L.P., and Mr. Kingsley and Mr. Duberstein are the general partners of Greenhouse Partners, L.P. Greenhouse Partners, L.P., Mr. Kingsley, and Mr. Duberstein may be deemed to beneficially own the shares that Greenway Partners, L.P. owns. Mr. Duberstein disclaims beneficial ownership of the shares and warrants owned solely by Mr. Kingsley, and Mr. Kingsley disclaims beneficial ownership of the shares owned solely by Mr. Duberstein.
- (2) Includes 443,245 shares held of record by Paul Segall and 202,163 shares held of record by Judith Segall.
- (3) Includes 2,100 shares held for the benefit of Dr. Waitz's minor children.
- (4) Includes 90,000 Common Shares issuable upon the exercise of certain options.
- (5) Includes 24,000 Common Shares issuable upon the exercise of certain options.
- (6) Includes 45,000 Common Shares issuable upon the exercise of certain options.
- (7) Includes 30,000 Common Shares issuable upon the exercise of certain stock options, and 15,384 Common Shares issuable upon the exercise of certain warrants. Does not include Common Shares that Mr. Dresner may acquire in lieu of cash payment of his director's fees.

(8) Includes 15,000 Common Shares issuable upon the exercise of certain options.

(9) Includes 219,384 Common Shares issuable upon the exercise of certain options and warrants.

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

Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), requires the Company's directors and executive officers and persons who own more than ten percent (10%) of a registered class of the Company's equity securities to file with the Securities and Exchange Commission (the "SEC") initial reports of ownership and reports of changes in ownership of Common Shares and other equity securities of the Company. Officers, directors and greater than ten percent beneficial owners are required by SEC regulation to furnish the Company with copies of all reports they file under Section 16(a).

To the Company's knowledge, based solely on its review of the copies of such reports furnished to the Company and written representations that no other reports were required, all Section 16(a) filing requirements applicable to its officers, directors and greater than ten percent beneficial owners were complied with during the fiscal year ended December 31, 2001, except that Steven Seinberg, Chief Financial Officer, was late in filing a Form 3 and a Form 4.



PART IV

Item 14. Exhibits, Financial Statement Schedules and Reports on Form 8-K

(a-1) Financial Statements.

The following financial statements of BioTime, Inc. are filed in the Form 10-K:

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Independent Auditors' Report	36
Balance Sheets As of December 31, 2001 and December 31, 2000	37
Statements of Operations For the Years Ended December 31, 2001, December 31, 2000 and December 31, 1999, and the Period From Inception (November 30, 1990) to December 31, 2001	38
Statements of Shareholders' Equity For the Years Ended December 31, 2001, December 31, 2000 and December 31, 1999, and the Period From Inception (November 30, 1990) to December 31, 2001	39-41
Statements of Cash Flows For the Years Ended December 31, 2001, December 31, 2000 and December 31, 1999, and the Period From Inception (November 30, 1990) to December 31, 2001	42-43
Notes to Financial Statements	44-55

(a-2) Financial Statement Schedules

All schedules are omitted because the required information is inapplicable or the information is presented in the financial statements or the notes thereto.

(a-3) Exhibits.

Exhibit Numbers - - - - -	Description - - - - -
3.1	Articles of Incorporation, as Amended.+
3.3	By-Laws, As Amended.#
4.1	Specimen of Common Share Certificate.+
10.1	Lease Agreement dated July 1, 1994 between the Registrant and Robert and Norah Brower, relating to principal executive offices of the Registrant.*
10.2	Intellectual Property Agreement between the Company and Paul Segall.+
10.3	Intellectual Property Agreement between the Company and Hal Sternberg.+
10.4	Intellectual Property Agreement between the Company and Harold Waitz.+
10.5	Intellectual Property Agreement between the Company and Judith Segall.+
10.6	Intellectual Property Agreement between the Company and Steven Seinberg.**
10.7	Agreement between CMSI and BioTime Officers Releasing Employment Agreements, Selling Shares, and Transferring Non-Exclusive License.+
10.8	Agreement for Trans Time, Inc. to Exchange CMSI Common Stock for BioTime, Inc. Common Shares.+
10.9	1992 Stock Option Plan, as amended.##
10.10	Intellectual Property Agreement between the Company and Ronald S. Barkin.^
10.11	Addenda to Lease Agreement between the Company and Donn Logan.++
10.12	Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).###
10.13	Modification of Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).^^^
10.14	Revolving Line of Credit Agreement, dated March 27, 2001, between BioTime, Inc. and Alfred D. Kingsley+++
10.15	Warrant Agreement, dated March 27, 2001, between BioTime, Inc. and Alfred D.Kingsley+++
10.16	Form of Series 2001-A 10% Debenture due August 1, 2004++++
10.17	Warrant Agreement between BioTime, Inc. and Purchasers of Series 2001-A Debentures++++
10.18	Revolving Line of Credit Agreement, dated March 27, 2002, between BioTime, Inc. and Alfred D. Kingsley**

- 10.19 Warrant Agreement, dated March 27, 2002, between BioTime, Inc. and Alfred D. Kingsley\*\*
- 23.1 Consent of Deloitte & Touche LLP\*\*
- + Incorporated by reference to the Company's Form 10-K for the fiscal year ended June 30, 1998.
  - + Incorporated by reference to Registration Statement on Form S-1, File Number 33-44549 filed with the Securities and Exchange Commission on December 18, 1991, and Amendment No. 1 and Amendment No. 2 thereto filed with the Securities and Exchange Commission on February 6, 1992 and March 7, 1992, respectively.
  - # Incorporated by reference to Registration Statement on Form S-1, File Number 33-48717 and Post-Effective Amendment No. 1 thereto filed with the Securities and Exchange Commission on June 22, 1992, and August 27, 1992, respectively.
  - \* Incorporated by reference to the Company's Form 10-K for the fiscal year ended June 30, 1994.
  - ++ Incorporated by reference to the Company's Form 10-K for the fiscal year ended June 30, 1996.
  - ^ Incorporated by reference to the Company's Form 10-Q for the quarter ended March 31, 1997.
  - ## Incorporated by reference to Registration Statement on Form S-8, File Number 333-30603 filed with the Securities and Exchange Commission on July 2, 1997.
  - ^^ Incorporated by reference to the Company's Form 10-Q for the quarter ended March 31, 1999.
  - ### Incorporated by reference to the Company's Form 8-K, filed April 24, 1997.
  - ^^^ Incorporated by reference to the Company's Form 10-Q for the quarter ended June 30, 1999.
  - ++ Incorporated by reference to the Company's Form 10-K for the year ended December 31, 1999.
  - +++ Incorporated by reference to the Company's Form 10-K for the year ended December 31, 2000.
  - ++++ Incorporated by reference to the Company's Form 10-Q for the quarter ended June 30, 2001.
- \*\* Filed herewith.

(b) Reports on Form 8-K

The Company did not file any reports of Form 8-K for the three months ended December 31, 2001.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized on the 29th day of March 2002.

BIOTIME, INC.

By: /s/Paul E. Segall

-----  
 Paul E. Segall, Ph.D.  
 Chairman and Chief Executive  
 Officer (Principal executive  
 officer)

Signature -----	Title -----	Date ----
/s/Paul E. Segall ----- Paul E. Segall, Ph.D.	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	March 29, 2002
----- Ronald S. Barkin	President and Director	March 29, 2002
/s/Harold D. Waitz ----- Harold D. Waitz, Ph.D.	Vice President and Director	March 29, 2002
----- Hal Sternberg, Ph.D.	Vice President and Director	March 29, 2002
/s/Steven Seinberg ----- Steven Seinberg	Chief Financial Officer (Principal Financial and Accounting Officer)	March 29, 2002
/s/Judith Segall ----- Judith Segall	Vice President, Corporate Secretary and Director	March 29, 2002
/s/Jeffrey B. Nickel ----- Jeffrey B. Nickel	Director	March 29, 2002
/s/Milton H. Dresner ----- Milton H. Dresner	Director	March 29, 2002
----- Katherine Gordon	Director	March 29, 2002

Exhibit Index

Exhibit Numbers -----	Description -----
3.1	Articles of Incorporation, as Amended.+
3.3	By-Laws, As Amended.#
4.1	Specimen of Common Share Certificate.+
10.1	Lease Agreement dated July 1, 1994 between the Registrant and Robert and Norah Brower, relating to principal executive offices of the Registrant.*
10.2	Intellectual Property Agreement between the Company and Paul Segall.+
10.3	Intellectual Property Agreement between the Company and Hal Sternberg.+
10.4	Intellectual Property Agreement between the Company and Harold Waitz.+
10.5	Intellectual Property Agreement between the Company and Judith Segall.+
10.6	Intellectual Property Agreement between the Company and Steven Seiberg.**
10.7	Agreement between CMSI and BioTime Officers Releasing Employment Agreements, Selling Shares, and Transferring Non-Exclusive License.+
10.8	Agreement for Trans Time, Inc. to Exchange CMSI Common Stock for BioTime, Inc. Common Shares.+
10.9	1992 Stock Option Plan, as amended.##
10.10	Intellectual Property Agreement between the Company and Ronald S. Barkin.^
10.11	Addenda to Lease Agreement between the Company and Donn Logan.++
10.12	Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).###
10.13	Modification of Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).^^^
10.14	Revolving Line of Credit Agreement dated March 27, 2001, between BioTime, Inc. and Alfred D. Kingsley+++
10.15	Warrant Agreement dated March 27, 2001, between BioTime, Inc. and Alfred D. Kingsley+++
10.16	Form of Series 2001-A 10% Debenture due August 1, 2004++++
10.17	Warrant Agreement between BioTime, Inc. and Purchasers of Series 2001-A Debentures++++
10.18	Revolving Line of Credit Agreement dated March 27, 2002, between BioTime, Inc. and Alfred D. Kingsley**
10.19	Warrant Agreement dated March 27, 2002, between BioTime, Inc. and Alfred D. Kingsley**
23.1	Consent of Deloitte & Touche LLP**

- + Incorporated by reference to the Company's Form 10-K for the fiscal year ended June 30, 1998.
- + Incorporated by reference to Registration Statement on Form S-1, File Number 33-44549 filed with the Securities and Exchange Commission on December 18, 1991, and Amendment No. 1 and Amendment No. 2 thereto filed with the Securities and Exchange Commission on February 6, 1992 and March 7, 1992, respectively.
- # Incorporated by reference to Registration Statement on Form S-1, File Number 33-48717 and Post-Effective Amendment No. 1 thereto filed with the Securities and Exchange Commission on June 22, 1992, and August 27, 1992, respectively.
- \* Incorporated by reference to the Company's Form 10-K for the fiscal year ended June 30, 1994.
- ++ Incorporated by reference to the Company's Form 10-K for the fiscal year ended June 30, 1996.
- ^ Incorporated by reference to the Company's Form 10-Q for the quarter ended March 31, 1997.
- ## Incorporated by reference to Registration Statement on Form S-8, File Number 333-30603 filed with the Securities and Exchange Commission on July 2, 1997.
- ^^ Incorporated by reference to the Company's Form 10-Q for the quarter ended March 31, 1999.
- ### Incorporated by reference to the Company's Form 8-K, filed April 24, 1997.
- ^^^ Incorporated by reference to the Company's Form 10-Q for the quarter ended June 30, 1999.
- ++ Incorporated by reference to the Company's Form 10-K for the year ended December 31, 1999.
- +++ Incorporated by reference to the Company's Form 10-K for the year ended December 31, 2000.
- ++++ Incorporated by reference to the Company's Form 10-Q for the quarter ended June 30, 2001.
- \*\* Filed herewith.

REVOLVING LINE OF CREDIT AGREEMENT

by and between

BIOTIME, INC.  
as "Borrower"

and

ALFRED D. KINGSLEY  
as "Lender"

Dated as of March 27, 2002

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REVOLVING LINE OF CREDIT AGREEMENT

This Revolving Line of Credit Agreement ("Credit Agreement") is made and entered into as of March 27, 2002, by and between Alfred D. Kingsley ("Lender"), and BioTime, Inc., a California corporation ("Borrower").

RECITALS

Borrower has requested a credit facility consisting of a revolving line of credit, and Lender is willing to make the requested credit facility to Borrower, but only upon the terms, and subject to the conditions, contained herein.

AGREEMENT

Now, therefore, in consideration of the premises and the mutual covenants hereinafter contained, the parties hereto agree as follows:

1. General Definitions. The following words shall have the following meanings:

1.1 "Business Day" means any day that is not a Saturday, a Sunday, or a day on which banks are required, or permitted, to be closed in the State of New York.

1.2 "Credit Facility" means the right of Borrower to borrow up to \$300,000 from Lender under the terms and conditions of this Credit Agreement and the Note.

1.3 "Debtor Relief Law" means the Bankruptcy Code of the United States of America, as amended, or any other applicable liquidation, conservatorship, bankruptcy, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief law affecting the rights of creditors generally.

1.4 "Event of Default" or "Events of Default" means any of the events specified in Section 5, 19.

1.5 "Loan" means the loans made by Lender to Borrower pursuant to this Credit Agreement, and evidenced by the Note.

1.6 "Loan Documents" means this Credit Agreement, the Note, the Warrant Agreement, and all other agreements, instruments, and documents in favor of Lender, now or hereafter executed by or on behalf of Borrower and delivered to Lender in connection with this Credit Agreement or in connection with any of the transactions contemplated hereby.

1.7 "Maturity Date" means the earlier of (i) March 31, 2003, and (ii) such date on which Borrower shall have received an aggregate of \$600,000 through (A) the sale of capital stock, (B) the collection of license fees, signing fees, milestone fees, or similar fees under



Borrower's Exclusive License Agreement with Abbott Laboratories or under any other present or future agreement pursuant to which Borrower grants one or more licenses to use Borrower's patents or technology, (C) funds borrowed from other lenders, or (D) any combination of sources under clauses (A) through (C).

1.8 "Note" means the promissory note, of even date, in the form attached as EXHIBIT A, evidencing the Loan to be executed concurrently with this Credit Agreement.

1.9 "Warrant" means the stock purchase warrant issued under the Warrant Agreement attached as EXHIBIT B, entitling the holder thereof to purchase common shares of the Borrower.

## 2. Draws and Disbursements.

2.1 Maximum Loan Amount. On the terms and conditions set forth in this Credit Agreement, Lender shall make available to Borrower the Credit Facility, as a revolving line of credit in a principal amount not to exceed at any one time Three Hundred Thousand Dollars (\$300,000), less all amounts of principal prepaid or required to be prepaid under Section 3.2.1 of this Credit Agreement (the "Maximum Loan Amount").

2.2 Draw Period. Borrower may request from Lender advances of funds ("Draws") under the Credit Facility from the date of this Agreement until March 1, 2003 (the "Draw Period"). As amounts drawn by Borrower hereunder are repaid, they may be reborrowed subject to the terms and conditions of this Credit Agreement; provided, that at no time shall the aggregate principal amount of Loans outstanding under this Credit Agreement exceed the Maximum Loan Amount. The Draw Period may be terminated by Borrower at any time by written notice to Lender. Subject to the terms and conditions of this Credit Agreement, and provided that no Event of Default has occurred, Lender shall make advances to Borrower upon request as provided in this Section 2. Upon the occurrence of an Event of, one of Lender's remedies includes Lender's right to terminate the Draw Period and Borrower's right to make Draws under this Credit Agreement.

2.3 Increments. Draws must be in increments of not less than One Hundred Thousand Dollars (\$100,000), or the remaining amount available under the Credit Facility, whichever is less.

2.4 Use of Funds. All funds borrowed under this Credit Agreement will be used as working capital to pay Borrower expenses arising in the ordinary course of business.

## 2.5 Disbursement Procedures.

2.5.1 Borrower hereby appoints its Chief Executive Officer, President, and Chief Financial Officer as the officers authorized to make Draws under this Credit Agreement during the Draw Period. Any one of such officers (the "Authorized Officers") is authorized to make Draws. Lender, at its sole option, may require that all requests for Loan funds be in writing, signed by an Authorized Officer, in a form acceptable to Lender. Facsimile documents may be accepted by Lender as originals. Any Draw by an Authorized Officer shall constitute an ongoing representation and warranty by Borrower that at the time of request for or payment of any Draw no Event of Default has occurred.

2.5.2 Draws shall be paid according to the Authorized Officer's instructions, except that checks representing Loan funds shall always be made payable to Borrower, and wire transfers shall only be permitted if Borrower has authorized payment into the account into which the funds are to be deposited. The appointment of the above-named Authorized Officer(s) shall remain in full force and effect until written notice of revocation of appointment signed by the Chief Executive Officer or Chief Financial Officer of Borrower has been received by Lender.

2.5.3 Lender shall advance Loan funds available under the Credit Facility in accordance with Borrower's Draws within four (4) Business Days after the receipt of the Draw.

2.5.4 Each Draw shall be accompanied by the certificates required by Section 2.6.

2.5.5 Borrower shall indemnify and hold Lender harmless from loss or liability of any kind arising from or related to any action or inaction taken by Lender in good faith in reliance upon instructions received from any Authorized Officer.

2.6 Conditions Precedent. The following conditions must be satisfied before Lender shall be obligated to disburse Loan funds to Borrower pursuant to a Draw:

2.6.1 Due execution. Lender shall have received duly originals of this Credit Agreement and all other Loan Documents.

2.6.2 Approvals. Lender shall have received evidence satisfactory to it that all consents and approvals which are necessary for, or required as a condition of, the validity and enforceability of this Credit Agreement and all other Loan Documents have been obtained and are in full force and effect.

2.6.3 Representations and Warranties Correct. All of Borrower's representations and warranties contained in this Credit Agreement and in any other Loan Document shall be true and correct in all material respects on the date the Loan funds are

disbursed, and Borrower shall have delivered to Lender a certificate executed by an Authorized Officer to such effect.

2.6.4 No Event of Default. No Event of Default shall have occurred, and Borrower shall have delivered to Lender a certificate executed by an Authorized Officer to such effect.

2.6.5 Independent Verification. Borrower must provide for Lender's review and acceptance such documentation as may be required by Lender to ensure Borrower is in compliance with the terms and conditions of this Credit Agreement, including, without limitation, resolutions of Borrower's board of directors or a duly constituted and authorized committee thereof, certified by the secretary or an assistant secretary of the corporation, authorizing the execution and delivery of this Agreement and the other Loan Documents and performance of Borrower's obligations hereunder and thereunder.

2.6.6 Warrant. Prior to the initial Draw under this Credit Agreement, Borrower must have executed the Warrant Agreement and issued the Warrant to Lender.

2.6.7 Closing Costs. Borrower must have paid all attorneys' fees incurred by Lender in connection the preparation, execution, and delivery of the Loan Documents, and all reports and notices required to be filed by Lender or its affiliates under the Securities Exchange Act of 1934, as amended, in connection with this Agreement and Lender's receipt of the Warrant.

### 3. Terms of Payment.

3.1 Interest. Interest shall accrue and be payable at the rate of 10% per annum on the outstanding principal balance of the Loan. Interest shall accrue from the date of each disbursement of principal pursuant to a Draw. Accrued interest shall be paid with principal on the Maturity Date. Interest will be charged on that part of outstanding principal of the Loan which has not been paid and shall be calculated on the basis of a 360-day year and a 30-day month.

3.2 Payment of Principal. The outstanding principal balance of the Loan, together with accrued interest, shall be paid in full on the Maturity Date.

3.2.1 Mandatory Prepayment of Principal. In the event that Borrower receives, in the aggregate, an amount of funds in excess of \$300,000 but less than \$600,000 from (A) the sale of capital stock, (B) the collection of license fees, signing fees, milestone fees, or similar fees under Borrower's Exclusive License Agreement with Abbott Laboratories, or under any other present or future agreement pursuant to which Borrower grants one or more licenses to use Borrower's patents or technology, (C) funds borrowed from other lenders, or (D) any combination of sources under clauses (A) through (C), Borrower shall use the funds in excess of \$300,000 to prepay principal, plus accrued interest, within two business days after such funds are

received by Borrower, and the amount of principal so prepaid shall reduce the Maximum Loan Amount.

3.2.2 Optional Prepayment of Principal. Borrower may prepay principal, with accrued interest, at any time and the amount of principal so prepaid shall be available for further Draws by Borrower during the Draw Period to the extent that the prepayment of principal was not required under Section 3.2.1.

3.3 Default Interest Rate; Late Payment Charge. In the event that any payment of principal or interest is not paid within five (5) days from on the date on which the same is due and payable, such payment shall continue as an obligation of the Borrower, and interest thereon from the due date of such payment and interest on the entire unpaid balance of the Loan shall accrue until paid in full at the lesser of (i) fifteen percent (15%) per annum, or (ii) the highest interest rate permitted under applicable law (the "Default Rate"). From and after the Maturity Date or upon acceleration of the Note, the entire unpaid principal balance of the Loan with all unpaid interest accrued thereon, and any and all other fees and charges then due at such maturity, shall bear interest at the Default Rate.

3.4 Date of Payment. If the date on which a payment of principal or interest on the Loan is due is a day other than a Business Day, then payment of such principal or interest need not be made on such date but may be made on the next succeeding Business Day.

3.5 Application of Payments. All payments shall be applied first to costs of collection, next to late charges or other sums owing Lender, next to accrued interest, and then to principal, or in such other order or proportion as Lender, in its sole discretion, may determine.

3.6 Currency. All payments shall be made in United States Dollars.

4. Warrant. As consideration for Lender making Credit Faculty available to Borrower, Borrower will issue and deliver Lender a Warrant to purchase thirty thousand (30,000) common shares, no par value of Borrower. The exercise price of the Warrant will be \$4.00.

5. Events of Default. The following shall constitute Events of Default: (a) the default of Borrower in the payment of any interest or principal due under this Credit Agreement or the Note; (b) the failure of Borrower to perform or observe any other term or provision of, or covenant, agreement, or obligation under, this Credit Agreement or any other Loan Document; (c) any act, omission, or other event that constitutes an "Event of Default" under the Note; (d) any representation or warranty of Borrower contained in this Credit Agreement or in any other Loan Document, or in any certificate delivered by Borrower pursuant to this Credit Agreement or any other Loan Document, is false or misleading in any material respect when made or given; (e) Borrower becoming the subject of any order for relief in a proceeding under any Debtor Relief Law; (f) Borrower making an assignment for the benefit of creditors; (g) Borrower applying for or consenting to the appointment of any receiver, trustee, custodian, conservator, liquidator, rehabilitator, or similar officer for it or for all or any part of its property or assets; (h) the

appointment of any receiver, trustee, custodian, conservator, liquidator, rehabilitator, or similar officer for Borrower, or for all or any part of the property or assets of Borrower, without the application or consent of Borrower if such appointment continues undischarged or unstayed for sixty (60) calendar days; (i) Borrower instituting or consenting to any proceeding under any Debtor Relief Law with respect to Borrower, or all or any part of its property or assets, or the institution of any similar case or proceeding without the consent of Borrower, if such case or proceeding continues undismissed or unstayed for sixty (60) calendar days; (j) the dissolution or liquidation of Borrower, or the winding-up of the business or affairs of Borrower; (k) the taking of any action by Borrower to initiate any of the actions described in clauses (f) through (j) of this paragraph; (l) the issuance or levy of any judgment, writ, warrant of attachment or execution or similar process against all or any material part of the property or assets of Borrower if such process is not released, vacated or fully bonded within sixty (60) calendar days after its issue or levy; or (m) any breach or default by Borrower under its Exclusive License Agreement with Abbott Laboratories, the occurrence of an Event of Default under Borrower's Series 2001-A Debentures, or any breach or default by Borrower under any loan agreement, promissory note, or other instrument evidencing indebtedness payable to a third party.

6. Remedies On Default. Upon the occurrence of an Event of Default, at Lender's option, all unpaid principal and accrued interest, and all other amounts payable under this Credit Facility and any other Loan Document shall become immediately due and payable without presentment, demand, notice of non-payment, protest, or notice of non-payment. Lender also shall have all other rights, powers, and remedies available under this Credit Agreement and the Note or any other Loan Document, or accorded by law or at equity. All rights, powers, and remedies of Lender may be exercised at any time by Lender and from time to time after the occurrence of an Event of Default. All rights, powers, and remedies of Lender in connection with this Credit Agreement and the Note and any Loan Document are cumulative and not exclusive and shall be in addition to any other rights, powers, or remedies provided by law or equity.

7. Representations and Warranties of Borrower. Borrower represents and warrants to Lender the following:

7.1 Organization; Capitalization. Borrower is a corporation duly organized, validly existing and in good standing under the laws of the state of California and has all requisite corporate power and authority to own its property and to carry on its business as now being conducted.

7.2 Authority; Enforceability. Borrower has the power and authority to execute and deliver this Credit Agreement and each of the other Loan Documents, and to perform all of Borrower's obligations under this Credit Agreement and the other Loan Documents. This Credit Agreement and each of the other Loan Agreements is the valid and binding agreement and obligation of Borrower, enforceable in accordance with its respective terms, except to the extent limited by any bankruptcy, insolvency, or similar law affecting the rights of creditors generally. There are no corporate, contractual, statutory, regulatory, judicial, or other restrictions of any kind upon the power and authority of Borrower to execute and deliver this Credit Agreement or any other Loan Document, and to consummate the transactions contemplated by this Credit Agreement and the other Loan Documents, including, without limitation: (a) the payment of all principal and interest that may become due on the Loan; and (b) the issuance of the Warrant and common shares issuable upon the exercise of the Warrant. No action, approval or consent by, or notice to or filing with, any federal, state, municipal or other governmental department, commission, agency, regulatory authority, or court is necessary to make this Credit Agreement or the other Loan Documents the valid agreements binding upon Borrower in accordance with

their respective terms, or to consummate the transactions contemplated by this Credit Agreement and the other Loan Documents.

7.3 No Conflict. The execution and delivery of this Credit Agreement and the other Loan Documents, and the consummation of the transactions contemplated by this Credit Agreement and the other Loan Documents, do not and will not (a) violate any provisions of (i) any rule, regulation, statute, or law, or (ii) the terms of any order, writ or decree of any court or judicial or regulatory authority or body, or (iii) the Articles of Incorporation or Bylaws of Borrower, and (b) conflict with or result in a breach of any condition or provision or constitute a default under or pursuant to the terms of any contract, mortgage, lien, lease, agreement, debenture or instrument to which Borrower or any Subsidiary is a party, or which is or purports to be binding upon Borrower, any Subsidiary, or upon any of their respective properties, and (c) result in the creation or imposition of any lien, charge or encumbrance upon any of the assets or properties of Borrower or any Subsidiary.

7.4 Warrant and Warrant Shares. The Warrant, when issued pursuant to this Credit Agreement, will be a duly authorized, valid, and binding obligation of Borrower, enforceable in accordance with its terms. When issued and sold upon the exercise of the Warrant in accordance with its terms, the common shares of the Borrower will be validly issued and outstanding, fully paid and non-assessable.

7.5 Accuracy of Information. Borrower has delivered to Lender a copy of Borrower's financial statements for the year ended on December 31, 2001, as will be included in its Form 10-K for such fiscal year, its annual report on Form 10-K for the fiscal year ended December 31, 2000, and quarterly report on Form 10-Q for the fiscal quarter and nine months ended September 30, 2001 (the "Disclosure Documents"). The financial statements contained in the Disclosure Documents were prepared in accordance with generally accepted accounting principles, consistently applied, and accurately reflect the financial condition and results of operations of Borrower at and as of the dates reported. All financial information and other information contained in the Disclosure Documents was true and correct in all material respects when such reports were filed under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in the case of the financial statements for the fiscal year ended December 31, 2001, is true and correct in all material respects on the date of this Credit Agreement, except for changes arising from operations in the ordinary course of business since December 31, 2001.

7.6 Taxes. Borrower has filed when due all federal, state and local income tax returns and has filed when due all other returns with respect to taxes which are required to be filed with the Internal Revenue Service and the appropriate authorities of the jurisdictions where business is transacted by them. All items and entries provided for or reflected in such returns are correct and are made on a proper basis. All amounts, if any, required to be paid, as shown on such returns, have been paid. None of such tax returns has been audited. There are no suits, actions, claims, or investigations, inquiries or proceedings now pending against Borrower in respect of taxes, governmental charges or assessments, nor are there any matters under discussion

with any governmental authority relating to taxes, governmental charges or assessments asserted by any such authority.

7.7 Litigation. Except as disclosed in the Disclosure Documents, there are no lawsuits, arbitration proceedings, administrative proceedings, actions or claims pending or threatened against Borrower. No fine, penalty or other sanction has been imposed by any federal, state, local or municipal court, judicial, administrative or regulatory body or authority against Borrower. There is no outstanding order, writ, injunction or degree of any court, administrative agency or governmental body or arbitration tribunal against or affecting Borrower or any of its respective properties, assets, business or prospects.

8. Affirmative Covenants. During the Draw Period, and until such time as the entire principal balance and accrued interest on the Loan, and all other amounts payable by Borrower under this Credit Agreement or any other Loan Document have been paid in full, Borrower shall comply with the following covenants and agreements:

8.1 Furnish Information. Borrower will, at Lender's request, furnish information to Lender relating to Borrower's business and financial affairs and permit Lender to examine Borrower's books and records.

8.2 Other Documents. Borrower will execute all other documents as Lender may reasonably require in connection with this Credit Agreement and Note in order to perfect its lien or security interest in any of the collateral for the loan, or otherwise to give effect to the terms and conditions of the loan or guaranty for the loan.

8.3 Comply with Terms and Conditions. Borrower will comply with all terms and conditions of all other Loan Documents.

8.4 Financial Reports. Borrower will file with the Securities and Exchange Commission, when due, all quarterly reports, annual reports, current reports, and other documents required pursuant to the Exchange Act and within 5 days of the date such reports and other documents are so required to be filed, to mail to Lender a copy of such reports.

8.5 Limitation on Dividends and Other Distributions by Borrower. Borrower shall not declare or pay any dividend or other distribution of cash, other property, or evidences of indebtedness, on account of or with respect to any shares of capital stock.

8.6 Insurance. Borrower will, and will cause its Subsidiaries, to maintain insurance with responsible carriers against such risks and in such amounts as is customarily carried by similar businesses with such deductible as are customarily carried by similar businesses of similar size, including, without limitation, property and casualty loss, workers' compensation and interruption of business insurance.

9. Fees and Charges of Attorneys and Others. In the event that Lender employs attorneys, accountants, appraisers, consultants, or other professional assistance, including the services of any such person who is a direct employee of Lender, in connection with any of the following, then, the reasonable amount of costs, expenses, and fees incurred by Lender shall be payable on demand. Lender may, at its option, add the amount of such costs, expenses, and reasonable fees to the principal amount of the Loan. Lender thereafter may charge interest on such amount at the interest rate then applicable to the principal. Costs, expenses, and reasonable fees of professionals covered by this provision include such charges for the following:

9.1 The preparation, modification, or renewal of this Credit Agreement and the Note, or any other documentation incident to the loan transaction;

9.2 Any litigation, dispute, proceeding or action, whether instituted by Lender, Borrower, or any other person, relating to the Note or this Agreement, including representation of Lender in any bankruptcy, insolvency, or reorganization case or proceeding instituted by or against Borrower, and any attempt by Lender to enforce any rights against Borrower;

9.3 In the event of bankruptcy or insolvency proceedings (whether state or federal) instituted by or against Borrower or involving the Borrower or Property of the Borrower, the Lender may recover all costs, expenses, and reasonable attorney fees incurred to protect or defend Lender's rights under the Note, and other documents underlying the loan transactions whether such costs, expenses, and attorney fees be contractual or bankruptcy related, including costs, expenses, and attorney fees for meetings, sessions, matters, proceedings and litigation involving issues solely distinct to federal bankruptcy law, rules and proceedings as well as other federal and state litigation and proceedings;

9.4 The inspection, verification, protection, collection, processing, sale, liquidation, or disposition of security given for the Note;

9.5 The preparation and filing of all reports required to be filed by Lender under the Exchange Act during the term of this Credit Agreement in connection with the ownership, acquisition, or disposition of the Warrant, common shares, or other equity securities issued by Borrower.

10. Maximum Permitted Interest. No provision of this Credit Agreement or any other Loan Document, or any transaction related thereto, shall be construed or so operate as to require the Borrower to pay interest at a greater rate than the maximum allowed by applicable state or federal law. Should any interest or other charges paid or payable by the Borrower in connection with the Loan result in the computation or earning of interest in excess of the maximum allowed by applicable state or federal law, then any and all such excess shall be and the same is hereby waived by Lender, and any and all such excess paid shall be credited automatically against and in reduction of the outstanding principal balance due of the Loan, and the portion of said excess which exceeds such principal balance shall be paid by Lender to the Borrower.



11. Governing Law. This Credit Agreement shall be construed and governed in all respects by the laws of the State of California.

12. Successors and Assigns. The provisions of this Credit Agreement shall inure to the benefit of, and be binding upon, the respective successors, assigns, heirs, executors and administrators of Borrower and Lender.

13. Entire Agreement; Amendment. This Credit Agreement and the other Loan Documents constitute the full and entire understanding and agreement among the parties with regard to the subject matter thereof. This Credit Agreement and any term of this Credit Agreement may be amended, waived, discharged or terminated only by a written instrument signed by the party to be charged.

14. Survival. Borrower's representations and warranties contained in this Credit Agreement shall survive the funding of each Draw and any investigation made by any party until the Maturity Date.

15. Notices. All notices and other communications required or permitted to be given pursuant to this Agreement shall be in writing and shall be deemed given four (4) days after being deposited in the United States mail, certified postage prepaid, return receipt requested, or when delivered by hand, by messenger or express air freight service, in any case addressed as follows:

To Lender:                Alfred D. Kingsley  
                              909 Third Avenue, 30th Floor  
                              New York, NY 10022  
                              FAX: (212) 350-5253

To Borrower:             BioTime, Inc.  
                              935 Pardee Street  
                              Berkeley, California 94710  
                              Attention: Paul Segall, Chief Executive Officer  
                              FAX: (510) 845-7914

with a copy to:  
Richard S. Soroko, Esq.  
Lippenberger, Thompson, Welch, Soroko & Gilbert LLP  
201 Tamal Vista, Blvd.  
Corte Madera, California 94925

Any party may change its address for the purpose of this Section 15 by giving notice to each other party in accordance with this Section 15.

16. Delays and Omissions. No delay or omission to exercise any right, power, or remedy accruing to Lender, upon any breach or default of Borrower under this Credit Agreement

or any other Loan Document, shall impair any such right, power, or remedy of Lender, nor shall it be construed to be a waiver of, or an acquiescence in, any such breach or default or any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent, or approval of any kind or character on the part of Lender of any breach or default by Borrower under this Credit Agreement or any other Loan Document, or any waiver of any provisions or conditions of this Credit Agreement or any other Loan Document by Lender, must be made in writing, and shall be effective only to the extent specifically set forth in such writing. All remedies either under this Agreement or by law and otherwise afforded to any party shall be cumulative and not alternative.

17. Rules of Construction.

17.1 Titles and Subtitles. The titles or headings of the Sections and paragraphs of this Credit Agreement are for convenience of reference only and are not to be considered in construing this Credit Agreement.

17.2 Singular; Plural. Whenever appropriate in this Agreement, terms in the singular form shall include the plural (and vice versa) and any gender form shall include all others.

17.3 Section Headings. Section headings are for the convenience of the parties and do not form a part of this Agreement.

17.4 Sections and Other References. References in this Agreement to sections, paragraphs, and exhibits are references to articles, sections, and paragraphs in this Agreement and schedules and exhibits attached to this Agreement unless specified otherwise.

18. Severability. If one or more provisions of this Credit Agreement are held to be unenforceable under applicable law, each such unenforceable provision shall be excluded from this Credit Agreement and the balance of this Credit Agreement shall be interpreted as if each such unenforceable provision were so excluded, and the balance of this Credit Agreement as so interpreted shall be enforceable in accordance with its terms.

19. Counterparts. This Credit Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

BORROWER: BIOTIME, INC.

By \_\_\_\_\_

Title \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

LENDER: \_\_\_\_\_  
Alfred D. Kingsley

## REVOLVING CREDIT NOTE

\$300,000

March 27, 2002

FOR VALUE RECEIVED, the undersigned, BioTime, Inc., a California corporation ("Borrower") hereby promises to pay to the order of Alfred D. Kingsley ("Lender") the principal sum of THREE HUNDRED THOUSAND DOLLARS (\$300,000) or such lesser amount as may from time to time be outstanding as the Loan pursuant to that certain Revolving Line of Credit Agreement, of even date, between Borrower and Lender (the "Credit Agreement"), together with interest on the unpaid balance of the Loan at the rate or rates hereinafter set forth. This Revolving Credit Note is the Note described in the Credit Agreement. All capitalized terms not otherwise defined in this Note shall have the meanings defined in the Credit Agreement.

## 1. Terms of Payment.

(a) Interest Rate. Interest shall accrue and be payable at the rate of 10% per annum on the outstanding principal balance of the Loan. Interest shall accrue from the date of each disbursement of principal pursuant to a Draw. Accrued interest shall be paid with principal. Interest will be charged on that part of outstanding principal of the Loan which has not been paid and shall be calculated on the basis of a 360-day year and a 30-day month.

(b) Payments of Principal. The outstanding principal balance of the Loan, together with accrued interest, shall be paid in full on the Maturity Date. "Maturity Date" means the earlier of (i) March 31, 2003, and (ii) such date on which Borrower shall have received an aggregate of \$600,000 through (A) the sale of capital stock, (B) the collection of license fees, signing fees, milestone fees, or similar fees under Borrower's Exclusive License Agreement with Abbott Laboratories, or under any other present or future agreement pursuant to which Borrower grants one or more licenses to use Borrower's patents or technology, (C) funds borrowed from other lenders, or (D) any combination of sources under clauses (A) through (C).

(c) Mandatory Prepayment of Principal. In the event that Borrower receives, in the aggregate, an amount of funds in excess of \$300,000 but less than \$600,000 from sources described in clauses (A) through (C) of paragraph (b) of this Section 1, Borrower shall use the funds in excess of \$300,000 to prepay principal, plus accrued interest, within two business days after such funds are received by Borrower, and the amount of principal so prepaid shall not be available for further Draws by Borrower during the Draw Period.

(d) Optional Prepayment of Principal. Borrower may prepay principal, with accrued interest, at any time and the amount of principal so prepaid shall be available for further Draws by Borrower during the Draw Period to the extent that the prepayment of principal was not required under paragraph (c) of this Section 1.

(e) Default Interest Rate. In the event that any payment of principal or interest is not paid within five (5) days from on the date on which the same is due and payable, such payment shall continue as an obligation of the Borrower, and interest thereon from the due date of such payment and interest on the entire unpaid balance of the Loan shall accrue until paid in full at the lesser of (i) fifteen percent (15%) per annum, or (ii) the highest interest rate permitted under applicable law (the "Default Rate"). From and after the Maturity Date or upon acceleration of the Note, the entire unpaid principal balance of the Loan with all unpaid interest accrued thereon, and any and all other fees and charges then due at such maturity, shall bear interest at the Default Rate.

(f) Date of Payment. If the date on which a payment of principal or interest on the Loan is due is a day other than a Business Day, then payment of such principal or interest need not be made on such date but may be made on the next succeeding Business Day.

(g) Application of Payments. All payments shall be applied first to costs of collection, next to late charges or other sums owing Lender, next to accrued interest, and then to principal, or in such other order or proportion as Lender, in its sole discretion, may determine.

(h) Currency. All payments shall be made in United States Dollars.

2. Events of Default. The following shall constitute Events of Default:

(a) the default of Borrower in the payment of any interest or principal due under this Note or the Credit Agreement; (b) the failure of Borrower to perform or observe any other term or provision of this Note, or any term, provision, covenant, or agreement in the Credit Agreement or any other Loan Document; (c) any act, omission, or other event that constitutes an "Event of Default" under the Credit Agreement; (d) any representation or warranty of Borrower contained in the Credit Agreement or in any other Loan Document, or in any certificate delivered by Borrower pursuant to the Credit Agreement or any other Loan Document, is false or misleading in any material respect when made or given; (e) Borrower becoming the subject of any order for relief in a proceeding under any Debtor Relief Law (as defined below); (f) Borrower making an assignment for the benefit of creditors; (g) Borrower applying for or consenting to the appointment of any receiver, trustee, custodian, conservator, liquidator, rehabilitator, or similar officer for it or for all or any part of its property or assets; (h) the appointment of any receiver, trustee, custodian, conservator, liquidator, rehabilitator, or similar officer for Borrower, or for all or any part of the property or assets of Borrower, without the application or consent of Borrower, if such appointment continues undischarged or unstayed for sixty (60) calendar days; (i) Borrower instituting or consenting to any proceeding under any Debtor Relief Law with respect to Borrower or all or any part of its property or assets, or the institution of any similar case or proceeding without the consent of Borrower, if such case or proceeding continues undischarged or unstayed for sixty (60) calendar days; (j) the dissolution or liquidation of Borrower, or the winding-up of the business or affairs of Borrower; (k) the taking of any action by Borrower to initiate any of the actions described in clauses (f) through (j) of this paragraph; (l) the issuance or levy of any judgment, writ, warrant of attachment or execution or similar process against all or any material part of the property or assets of Borrower if such process is not released, vacated or fully bonded within sixty (60) calendar days after its issue or levy; or (m) any breach or default by Borrower under its Exclusive License Agreement with Abbott Laboratories, the occurrence of an Event of Default under Borrower's Series 2001-A Debentures, or any breach or default by Borrower under

any loan agreement, promissory note, or other instrument evidencing indebtedness payable to a third party. As used in this Note, the term "Debtor Relief Law" means the Bankruptcy Code of the United States of America, as amended, or any other applicable liquidation, conservatorship, bankruptcy, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief law affecting the rights of creditors generally.

3. Remedies On Default. Upon the occurrence of an Event of Default, at Lender's option, all unpaid principal and accrued interest, and all other amounts payable under this Note shall become immediately due and payable without presentment, demand, notice of non-payment, protest, or notice of non-payment. Lender also shall have all other rights, powers, and remedies available under the Credit Agreement and any other Loan Document, or accorded by law or at equity. All rights, powers, and remedies of Lender may be exercised at any time by Lender and from time to time after the occurrence of an Event of Default. All rights, powers, and remedies of Lender in connection with this Note and any other Loan Document are cumulative and not exclusive and shall be in addition to any other rights, powers, or remedies provided by law or equity.

#### 4. Miscellaneous.

(a) Borrower and all guarantors and endorsers of this Note severally waive (i) presentment, demand, protest, notice of dishonor, and all other notices; (ii) any release or discharge arising from any extension of time, discharge of a prior party, release of any or all of the security for this Note, and (iii) any other cause of release or discharge other than actual payment in full of all indebtedness evidenced by or arising under this Note.

(b) No delay or omission of Lender to exercise any right, whether before or after an Event of Default, shall impair any such right or shall be construed to be a waiver of any right or default, and the acceptance of any past-due amount at any time by the Lender shall not be deemed to be a waiver of the right to require prompt payment when due of any other amounts then or thereafter due and payable. The Lender shall not be deemed, by any act or omission, to have waived any of Lender's rights or remedies under this Note unless such waiver is in writing and signed by Lender and then only to the extent specifically set forth in such writing. A waiver with reference to one event shall not be construed as continuing or as a bar to or waiver of any right or remedy as to a subsequent event.

(c) Lender may accept, indorse, present for payment, and negotiate checks marked "payment in full" or with words of similar effect without waiving Lender's right to collect from Borrower the full amount owed by Borrower.

(d) Time is of the essence under this Note. Upon any Event of Default, the Lender may exercise all rights and remedies provided for in this Note and by law, including, but not limited to, the right to immediate payment in full of this Note.

(e) The rights and remedies of the Lender as provided in this Note, in the Credit Agreement and in law or equity, shall be cumulative and concurrent, and may be pursued singularly, successively, or together at the sole discretion of the Lender, and may be exercised

as often as occasion therefor shall occur; and the failure to exercise any such right or remedy shall in no event be construed as a waiver or a release of any such right or remedy.

(f) It is expressly agreed that if this Note is referred to an attorney or if suit is brought to collect this Note or any amount due under this Note, or to enforce or protect any rights conferred upon Lender by this Note then Borrower promises and agrees to pay on demand all costs, including without limitation, reasonable attorneys' fees, incurred by Lender in the enforcement of Lender's rights and remedies under this Note, and such other agreements.

(g) The terms, covenants, and conditions contained in this Note shall be binding upon the heirs, executors, administrators, successors, and assigns of Borrower, and each of them, and shall inure to the benefit of the heirs, executors, administrators, successors and assigns of Lender.

(h) This Note shall be construed under and governed by the laws of the State of California without regard to conflicts of law.

(i) No provision of this Note shall be construed or so operate as to require the Borrower to pay interest at a greater rate than the maximum allowed by applicable state or federal law. Should any interest or other charges paid or payable by the Borrower in connection with this Note or the Loan result in the computation or earning of interest in excess of the maximum allowed by applicable state or federal law, then any and all such excess shall be and the same is hereby waived by Lender, and any and all such excess paid shall be credited automatically against and in reduction of the outstanding principal balance due of the Loan, and the portion of said excess which exceeds such principal balance shall be paid by Lender to the Borrower.

BORROWER: BIOTIME, INC.

By \_\_\_\_\_

Title \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

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Warrant Agreement  
Dated as of March 27, 2002  
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WARRANT AGREEMENT, dated as of March 27, 2002, between BioTime, Inc., a California corporation (the "Company"), and Alfred D. Kingsley (the "Lender").

The Company proposes to issue a Common Share Purchase Warrant, as hereinafter described (the "Warrants"), to purchase up to an aggregate of 30,000 of its Common Shares, no par value (the "Common Stock") (the shares of Common Stock issuable upon exercise of the Warrants being referred to herein as the "Warrant Shares"), in connection with the Revolving Line of Credit Agreement of even date (the "Credit Agreement"), between the Company and the Lender.

In consideration of the foregoing and for the purpose of defining the terms and provisions of the Warrant and the respective rights and obligations thereunder of the Company and each registered owner of the Warrant (the "Holder"), the Company and the Lender hereby agree as follows:

SECTION 1. Issuance of Warrants; Term of Warrants. Concurrently with the execution and delivery of this Agreement and the Credit Agreement, the Company is issuing and delivering to the Lender a Warrant to purchase 30,000 Warrant Shares, which Warrant shall be represented by a certificate in substantially the form of Exhibit A hereto. Subject to the terms of this Agreement, a Holder of any of such Warrant (including any Warrants into which the Warrant may be divided) shall have the right, which may be exercised at any time prior to 5:00 p.m., New York Time on March 26, 2007 (the "Expiration Date"), to purchase from the Company the number of fully paid and nonassessable Warrant Shares which the Holder may at the time be entitled to purchase upon exercise of any of such Warrant.

SECTION 2. Transferability and Form of Warrant.

2.1 Registration. The Warrant shall be numbered and shall be registered on the books of the Company (the "Warrant Register") as issued. The Company and the Warrant Agent (if appointed) shall be entitled to treat the Holder of any Warrant as the owner in fact thereof for all purposes and shall not be bound to recognize any equitable or other claim or interest in such Warrant on the part of any other person, and shall not be liable for any registration of transfer of any Warrant which is registered or to be registered in the name of a fiduciary or the nominee of a fiduciary unless made with the actual knowledge that a fiduciary or nominee is committing a breach of trust in requesting such registration or transfer, or with such knowledge of such facts that its participation therein amounts to bad faith. The Warrant shall initially be registered in the name of the Lender.

2.2 Restrictions on Exercise and Transfer. The Warrant may not be exercised, sold, pledged, hypothecated, transferred or assigned, in whole or in part, unless a registration statement under the Securities Act of 1933, as amended (the "Act"), and under any applicable state securities laws is effective therefor or, an exemption from such registration is then available. Any exercise, sale, pledge, hypothecation, transfer, or assignment in violation of the foregoing restriction shall be deemed null and void and of no binding effect. The Company shall be entitled to obtain, as a condition precedent to its issuance of any certificates representing Warrant Shares or any other securities issuable upon any exercise of the Warrant, a letter or other instrument from the Holder containing such covenants, representations or warranties by such Holder as reasonably

deemed necessary by Company to effect compliance by the Company with the requirements of applicable federal and/or state securities laws.

2.3 Transfer. Subject to Section 2.2, the Warrant shall be transferable only on the Warrant Register upon delivery thereof duly endorsed by the Holder or by his duly authorized attorney or representative, or accompanied by proper evidence of succession, assignment or authority to transfer, which endorsement shall be guaranteed by a bank or trust company or a broker or dealer which is a member of the National Association of Securities Dealers, Inc. In all cases of transfer by an attorney, the original power of attorney, duly approved, or a copy thereof, duly certified, shall be deposited and remain with the Company (or the Warrant Agent, if appointed). In case of transfer by executors, administrators, guardians or other legal representatives, duly authenticated evidence of their authority shall be produced, and may be required to be deposited and remain with the Company (or the Warrant Agent, if appointed) in its discretion. Upon any registration of transfer, the Company shall execute and deliver (or if appointed, the Warrant Agent shall countersign and deliver) a new Warrant or Warrants to the persons entitled thereto.

2.4 Form of Warrant. The text of the Warrant and of the Purchase Form shall be substantially as set forth in Exhibit A attached hereto. The price per Warrant Share and the number of Warrant Shares issuable upon exercise of each Warrant are subject to adjustment upon the occurrence of certain events, all as hereinafter provided. The Warrants shall be executed on behalf of the Company by its Chairman of the Board, President or one of its Vice Presidents, under its corporate seal reproduced thereon attested by its Secretary or Assistant Secretary. The signature of any such officers on the Warrants may be manual or facsimile, provided, however, that the signature of any such officers must be manual until such time as a Warrant Agent is appointed.

Warrants bearing the manual or facsimile signatures of individuals who were at any time the proper officers of the Company shall bind the Company, notwithstanding that such individuals or any one of them shall have ceased to hold such offices prior to the delivery of such Warrants or did not hold such offices on the date of this Agreement.

In the event that the Company shall appoint a Warrant Agent to act on its behalf in connection with the division, transfer, exchange or exercise of Warrants, the Warrants issued after the date of such appointment shall be dated as of the date of countersignature thereof by the Warrant Agent upon division, exchange, substitution or transfer. Until such time as the Company shall appoint a Warrant Agent, Warrants shall be dated as of the date of execution thereof by the Company either upon initial issuance or upon division, exchange, substitution or transfer.

SECTION 3. Countersignature of Warrants. In the event that the Company shall appoint a Warrant Agent to act on its behalf in connection with the division, transfer, exchange or exercise of Warrants, the Warrants issued after the date of such appointment shall be countersigned by the Warrant Agent (or any successor to the Warrant Agent then acting as warrant agent) and shall not be valid for any purpose unless so countersigned. Warrants may be countersigned, however, by the Warrant Agent (or by its successor as warrant agent hereunder) and may be delivered by the Warrant Agent, notwithstanding that the persons whose manual or facsimile signatures appear thereon as proper officers of the Company shall have ceased to be such officers at the time of such

countersignature, issuance or delivery. The Warrant Agent (if so appointed) shall, upon written instructions of the Chairman of the Board, the President, an Executive or Senior Vice President, the Treasurer or the Controller of the Company, countersign, issue and deliver Warrants entitling the Holders thereof to purchase not more than 30,000 Warrant Shares (subject to adjustment pursuant to Section 10 hereof) and shall countersign and deliver Warrants as otherwise provided in this Agreement.

SECTION 4. Exchange of Warrant Certificates. Each Warrant certificate may be exchanged, at the option of the Holder thereof, for another Warrant certificate or Warrant certificates in different denominations entitling the Holder or Holders thereof to purchase a like aggregate number of Warrant Shares as the certificate or certificates surrendered then entitle each Holder to purchase. Any Holder desiring to exchange a Warrant certificate or certificates shall make such request in writing delivered to the Company at its principal office (or, if a Warrant Agent is appointed, the Warrant Agent at its principal office) and shall surrender, properly endorsed, the certificate or certificates to be so exchanged. Thereupon, the Company (or, if appointed, the Warrant Agent) shall execute and deliver to the person entitled thereto a new Warrant certificate or certificates, as the case may be, as so requested, in such name or names as such Holder shall designate.

SECTION 5. Exercise of Warrants; Listing.

5.1 Exercise of Warrants. A Warrant may be exercised upon surrender of the certificate or certificates evidencing the Warrants to be exercised, together with the form of election to purchase on the reverse thereof duly filled in and signed, which signature shall be guaranteed by a bank or trust company or a broker or dealer which is a member of the National Association of Securities Dealers, Inc., to the Company at its principal office (or if appointed, the principal office of the Warrant Agent) and upon payment of the Warrant Price (as defined in and determined in accordance with the provisions of Sections 9 and 10 hereof) to the Company (or if appointed, to the Warrant Agent for the account of the Company), for the number of Warrant Shares in respect of which such Warrants are then exercised. Payment of the aggregate Warrant Price (defined in Section 9 herein) shall be made in cash or by certified or bank cashier's check.

Subject to Section 6 hereof, upon the surrender of the Warrant and payment of the Warrant Price as aforesaid, the Company (or if appointed, the Warrant Agent) shall cause to be issued and delivered with all reasonable dispatch to or upon the written order of the Holder and in such name or names as the Holder may designate, a certificate or certificates for the number of full Warrant Shares so purchased upon the exercise of such Warrant, together with cash, as provided in Section 11 hereof, in respect of any fractional Warrant Shares otherwise issuable upon such surrender. Such certificate or certificates shall be deemed to have been issued and any person so designated to be named therein shall be deemed to have become a holder of record of such Warrant Shares as of the date of the surrender of such Warrants and payment of the Warrant Price, as aforesaid. The rights of purchase represented by the Warrant shall be exercisable, at the election of the Holder thereof, either in full or from time to time in part and, in the event that a certificate evidencing the Warrant is exercised in respect of less than all of the Warrant Shares purchasable on such exercise at any time prior to the date of expiration of the Warrant, a new certificate evidencing the unexercised portion of the Warrant will be issued, and the Warrant Agent (if so appointed) is hereby irrevocably authorized to countersign and to deliver the required new Warrant certificate or certificates pursuant to the provisions of this Section and Section 3 hereof, and the Company, whenever required by the Warrant Agent (if appointed), will supply the Warrant Agent with Warrant certificates duly executed on behalf of the Company for such purpose.

5.2 Listing of Shares on Securities Exchange; Exchange Act Registration. The Company will promptly use its best efforts to cause the Warrant Shares to be listed, subject to official notice of issuance, on all national securities exchanges on which the Common Stock is listed and whose rules and regulations require such listing, as soon as possible following the date hereof.

The Company will promptly notify the Holders in the event that the Company plans to register the Warrants with the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

SECTION 6. Payment of Taxes. The Company will pay all documentary stamp taxes, if any, attributable to the initial issuance of Warrant Shares upon the exercise of Warrants; provided, however, that the Company shall not be required to pay any tax or taxes which may be payable in respect of any transfer involved in the issue or delivery of any Warrant or certificates for Warrant Shares in a name other than that of the registered Holder of such Warrants.

SECTION 7. Mutilated or Missing Warrants. In case any of the certificates evidencing the Warrants shall be mutilated, lost, stolen or destroyed, the Company may in its discretion issue and deliver (and, if appointed, the Warrant Agent shall countersign and deliver) in exchange and substitution for and upon cancellation of the mutilated Warrant certificate, or in lieu of and substitution for the Warrant certificate lost, stolen or destroyed, a new Warrant certificate of like tenor, but only upon receipt of evidence reasonably satisfactory to the Company and the Warrant Agent (if so appointed) of such loss, theft or destruction of such Warrant and an indemnity or bond, if requested, also reasonably satisfactory to them. An applicant for such a substitute Warrant certificate shall also comply with such other reasonable regulations and pay such other reasonable charges as the Company (or the Warrant Agent, if so appointed) may prescribe.

SECTION 8. Reservation of Warrant Shares; Purchase and Cancellation of Warrants.

8.1 Reservation of Warrant Shares. There have been reserved, and the Company shall at all times keep reserved, out of its authorized Common Stock, a number of shares of Common Stock sufficient to provide for the exercise of the rights of purchase represented by the outstanding Warrants and any additional Warrants issuable hereunder. The Transfer Agent for the Common Stock and every subsequent transfer agent for any shares of the Company's capital stock issuable upon the exercise of any of the rights of purchase aforesaid will be irrevocably authorized and directed at all times to reserve such number of authorized shares as shall be required for such purpose. The Company will keep a copy of this Agreement on file with the Transfer Agent for the Common Stock and with every subsequent transfer agent for any shares of the Company's capital stock issuable upon the exercise of the rights of purchase represented by the Warrants. The Warrant Agent, if appointed, will be irrevocably authorized to requisition from time to time from such Transfer Agent the stock certificates required to honor outstanding Warrants upon exercise thereof in accordance with the terms of this Agreement. The Company will supply such Transfer Agent with duly executed stock certificates for such purposes and will provide or otherwise make available any cash which may be payable as provided in Section 11 hereof. The Company will furnish such Transfer Agent a copy of all notices of adjustments and certificates related thereto, transmitted to each Holder pursuant to subsection 10.3 hereof.

8.2 Purchase of Warrants by the Company. The Company shall have the right, except as limited by law, other agreements or herein, with the consent of the Holder, to purchase or otherwise acquire Warrants at such times, in such manner and for such consideration as it may deem appropriate.

8.3 Cancellation of Warrants. In the event the Company shall purchase or otherwise acquire Warrants, the same shall thereupon be cancelled and retired. The Warrant Agent (if so appointed) shall cancel any Warrant surrendered for exchange, substitution, transfer or exercise in whole or in part.

SECTION 9. Warrant Price. Subject to any adjustments required by Section 10 hereof, the price per share at which Warrant Shares shall be purchasable upon exercise of a Warrant (as to any particular Warrant, the "Warrant Price") shall be Four Dollars (\$4.00) per share.

SECTION 10. Adjustment of Warrant Price and Number of Warrant Shares. The number and kind of securities purchasable upon the exercise of each Warrant and the Warrant Price shall be subject to adjustment from time to time upon the happening of certain events, as hereinafter defined.

10.1 Adjustments. The number of Warrant Shares purchasable upon the exercise of each Warrant and the Warrant Price shall be subject to adjustment as follows:

(a) In the event that the Company shall (i) pay a dividend in shares of Common Stock or make a distribution in shares of Common Stock, (ii) subdivide its outstanding shares of Common Stock, (iii) combine its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) reclassify or change (including a change to the right to receive, or a change into, as the case may be (other than with respect to a merger or

consolidation pursuant to the exercise of appraisal rights), shares of stock, other securities, property, cash or any combination thereof) its Common Stock (including any such reclassification or change in connection with a consolidation or merger in which the Company is the surviving corporation), the number of Warrant Shares purchasable upon exercise of each Warrant immediately prior thereto shall be adjusted so that the Holder of each Warrant shall be entitled to receive the kind and number of Warrant Shares or other securities of the Company or other property which he would have owned or have been entitled to receive after the happening of any of the events described above, had such Warrant been exercised immediately prior to the happening of such event or any record date with respect thereto. An adjustment made pursuant to this paragraph (a) shall become effective immediately after the effective date of such event retroactive to the record date, if any, for such event.

(b) In case the Company shall issue rights, options or warrants to all holders of its outstanding Common Stock, without any charge to such holders, entitling them to subscribe for or purchase shares of Common Stock at a price per share which is lower at the record date mentioned below than the then current market price per share of Common Stock (as defined in paragraph (d) below), the number of Warrant Shares thereafter purchasable upon the exercise of each Warrant shall be determined by multiplying the number of Warrant Shares theretofore purchasable upon exercise of each Warrant by a fraction, of which the numerator shall be the number of shares of Common Stock outstanding on the date of issuance of such rights, options or warrants plus the number of additional shares of Common Stock offered for subscription or purchase in connection with such rights, options or warrants, and of which the denominator shall be the number of shares of Common Stock outstanding on the date of issuance of such rights, options or warrants plus the number of shares which the aggregate offering price of the total number of shares of Common Stock so offered would purchase at the current market price per share of Common Stock at such record date. Such adjustment shall be made whenever such rights, options or warrants are issued, and shall become effective immediately after the record date for the determination of stockholders entitled to receive such rights, options or warrants.

(c) In case the Company shall distribute to all holders of its shares of Common Stock, (including any distribution made in connection with a merger in which the Company is the surviving corporation), evidences of its indebtedness or assets (excluding cash, dividends or distributions payable out of consolidated earnings or earned surplus and dividends or distributions referred to in paragraph (a) above) or rights, options or warrants, or convertible or exchangeable securities containing the right to subscribe for or purchase shares of Common Stock (excluding those referred to in paragraph (b) above), then in each case the number of Warrant Shares thereafter purchasable upon the exercise of each Warrant shall be determined by multiplying the number of Warrant Shares theretofore purchasable upon the exercise of each Warrant by a fraction, of which the numerator shall be the then current market price per share of Common Stock (as defined in paragraph (d) below) on the date of such distribution, and of which the denominator shall be the then current market price per share of Common Stock, less the then fair value (as determined by the Board of Directors of the Company or, in the case of Warrants held by the Lender, an independent investment banker which shall be mutually agreeable to the parties, whose determination, in each case, shall be conclusive) of the portion of the assets or evidences of indebtedness so distributed or of such subscription rights, options or warrants, or of such convertible or exchangeable securities applicable to one share of Common Stock. Such

adjustment shall be made whenever any such distribution is made, and shall become effective on the date of distribution retroactive to the record date for the determination of shareholders entitled to receive such distribution.

(d) For the purpose of any computation under paragraphs (b) and (c) of this Section, the current market price per share of Common Stock at any date shall be the average of the daily last sale prices for the 20 consecutive trading days ending one trading day prior to the date of such computation. The closing price for each day shall be the last reported sales price regular way or, in case no such reported sale takes place on such day, the average of the closing bid and asked prices regular way for such day, in each case on the principal national securities exchange on which the shares of Common Stock are listed or admitted to trading or, if not so listed or admitted to trading, the last sale price of the Common Stock on the Nasdaq Stock Market or any comparable system. If the current market price of the Common Stock cannot be so determined, the Board of Directors of the Company shall reasonably determine the current market price on the basis of such quotations as are available.

(e) No adjustment in the number of Warrant Shares purchasable hereunder shall be required unless such adjustment would require an increase or decrease of at least one percent (1%) in the number of Warrant Shares purchasable upon the exercise of each Warrant; provided, however, that any adjustments which by reason of this paragraph (e) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations shall be made with respect to the number of Warrant Shares purchasable hereunder, to the nearest tenth of a share and with respect to the Warrant Price payable hereunder, to the nearest whole cent.

(f) Whenever the number of Warrant Shares purchasable upon the exercise of each Warrant is adjusted, as herein provided, the Warrant Price payable upon exercise of each Warrant shall be adjusted by multiplying such Warrant Price immediately prior to such adjustment by a fraction, of which the numerator shall be the number of Warrant Shares purchasable upon the exercise of each Warrant immediately prior to such adjustment, and of which the denominator shall be the number of Warrant Shares purchasable immediately thereafter.

(g) No adjustment in the number of Warrant Shares purchasable upon the exercise of each Warrant need be made under paragraphs (b) and (c) if the Company issues or distributes to each Holder of Warrants the rights options, warrants, or convertible or exchangeable securities, or evidences of indebtedness or assets referred to in those paragraphs which each Holder of Warrants would have been entitled to receive had the Warrants been exercised prior to the happening of such event or the record date with respect thereto. No adjustment need be made for a change in the par value of the Warrant Shares.

(h) For the purpose of this subsection 10.1, the term "shares of Common Stock" shall mean (i) the class of stock designated as the Common Stock of the Company at the date of this Agreement, or (ii) any other class of stock resulting from successive changes or reclassifications of such shares consisting solely of changes in par value, or from par value to no par value, or from no par value to par value. In the event that at any time, as a result of an adjustment made pursuant to paragraph (a) above, the Holders shall become entitled to purchase any securities of the Company other than shares of Common Stock, thereafter the number of such

other shares so purchasable upon exercise of each Warrant and the Warrant Price of such shares shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the Warrant Shares contained in paragraphs (a) through (i), inclusive, and the provisions of Section 5 and subsections 10.2 through 10.5, inclusive, with respect to the Warrant Shares, shall apply on like terms to any such other securities.

(i) Upon the expiration of any rights, options, warrants or conversion or exchange privileges, if any thereof shall not have been exercised, the Warrant Price and the number of Warrant Shares purchasable upon the exercise of each Warrant shall, upon such expiration, be readjusted and shall thereafter be such as it would have been had it been originally adjusted (or had the original adjustment not been required, as the case may be) as if (A) the only shares of Common Stock so issued were the shares of Common Stock, if any, actually issued or sold upon the exercise of such rights, options, warrants or conversion or exchange rights and (B) such shares of Common Stock, if any, were issued or sold for the consideration actually received by the Company upon such exercise plus the aggregate consideration, if any, actually received by the Company for the issuance, sale or grant of all such rights, options, warrants or conversion or exchange rights whether or not exercised.

10.2 Voluntary Adjustment by the Company. The Company may at its option, at any time during the term of the Warrants, reduce the then current Warrant Price to any amount deemed appropriate by the Board of Directors of the Company.

10.3 Notice of Adjustment. Whenever the number of Warrant Shares purchasable upon the exercise of each Warrant or the Warrant Price of such Warrant Shares is adjusted, as herein provided, the Company shall, or in the event that a Warrant Agent is appointed, the Company shall cause the Warrant Agent promptly to, mail by first class, postage prepaid, to each Holder notice of such adjustment or adjustments. Such notice shall set forth the number of Warrant Shares purchasable upon the exercise of each Warrant and the Warrant Price of such Warrant Shares after such adjustment, setting forth a brief statement of the facts requiring such adjustment and setting forth the computation by which such adjustment was made.

10.4 No Adjustment for Dividends. Except as provided in subsection 10.1, no adjustment in respect of any dividends shall be made during the term of a Warrant or upon the exercise of a Warrant.

10.5 Preservation of Purchase Rights Upon Merger, Consolidation, etc. In case of any consolidation of the Company with or merger of the Company into another corporation or in case of any sale, transfer or lease to another corporation of all or substantially all the property of the Company, the Company or such successor or purchasing corporation, as the case may be, shall execute an agreement that each Holder shall have the right thereafter, upon such Holder's election, either (i) upon payment of the Warrant Price in effect immediately prior to such action, to purchase upon exercise of each Warrant the kind and amount of shares and other securities and property (including cash) which he would have owned or have been entitled to receive after the happening of such consolidation, merger, sale, transfer or lease had such Warrant been exercised immediately prior to such action (such shares and other securities and property (including cash) being referred to as the "Sale Consideration") or (ii) to receive, in cancellation of such Warrant



(and in lieu of paying the Warrant price and exercising such Warrant), the Sale Consideration less a portion thereof having a fair market value (as reasonably determined by the Company) equal to the Warrant Price (it being understood that, if the Sale Consideration consists of more than one type of shares, other securities or property, the amount of each type of shares, other securities or property to be received shall be reduced proportionately); provided, however, that no adjustment in respect of dividends, interest or other income on or from such shares or other securities and property shall be made during the term of a Warrant or upon the exercise of a Warrant. The Company shall mail by first class mail, postage prepaid, to each Holder, notice of the execution of any such agreement. Such agreement shall provide for adjustments, which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 10. The provisions of this subsection 10.5 shall similarly apply to successive consolidations, mergers, sales, transfers or leases. The Warrant Agent (if appointed) shall be under no duty or responsibility to determine the correctness of any provisions contained in any such agreement relating to the kind or amount of shares of stock or other securities or property receivable upon exercise of Warrants or with respect to the method employed and provided therein for any adjustments and shall be entitled to rely upon the provisions contained in any such agreement.

10.6 Statement on Warrants. Irrespective of any adjustments in the Warrant Price or the number or kind of shares purchasable upon the exercise of the Warrants, Warrants issued before or after such adjustment may continue to express the same price and number and kind of shares as are stated in the Warrants initially issuable pursuant to this Agreement.

SECTION 11. Fractional Interests. The Company shall not be required to issue fractional Warrant Shares on the exercise of Warrants. If more than one Warrant shall be presented for exercise in full at the same time by the same Holder, the number of full Warrant Shares which shall be issuable upon the exercise thereof shall be computed on the basis of the aggregate number of Warrant Shares purchasable on exercise of the Warrants so presented. If any fraction of a Warrant Share would, except for the provisions of this Section 11, be issuable on the exercise of any Warrant (or specified portion thereof), the Company shall pay an amount in cash equal to the average of the daily closing sale prices (determined in accordance with paragraph (d) of subsection 10.1) per share of Common Stock for the 20 consecutive trading days ending one trading day prior to the date the Warrant is presented for exercise, multiplied by such fraction.

SECTION 12. No Rights as Shareholders; Notices to Holders. Nothing contained in this Agreement or in any of the Warrants shall be construed as conferring upon the Holders or their transferees the right to vote or to receive dividends or to consent or to receive notice as shareholders in respect of any meeting of shareholders for the election of directors of the Company or any other matter, or any rights whatsoever as shareholders of the Company. If, however, at any time prior to the expiration of the Warrants and prior to their exercise, any of the following events shall occur:

(a) the Company shall declare any dividend payable in any securities upon its shares of Common Stock or make any distribution (other than a regular cash dividend, as such dividend may be increased from time to time, or a dividend payable in shares of Common Stock) to the holders of its shares of Common Stock; or

(b) the Company shall offer to the holders of its shares of Common Stock on a pro rata basis any cash, additional shares of Common Stock or other securities of the Company or any right to subscribe for or purchase any thereof; or

(c) a dissolution, liquidation or winding up of the Company (other than in connection with a consolidation, merger, sale, transfer or lease of all or substantially all of its property, assets, and business as an entirety) shall be proposed,

then in any one or more of said events the Company shall (a) give notice in writing of such event as provided in Section 14 hereof and (b) if the Warrants have been registered pursuant to the Act, cause notice of such event to be published once in The Wall Street Journal (national edition), such giving of notice and publication to be completed at least 10 days prior to the date fixed as a record date or the date of closing the transfer books for the determination of the stockholders entitled to such dividend, distribution, or subscription rights or for the determination of stockholders entitled to vote on such proposed dissolution, liquidation or winding up or the date of expiration of such offer. Such notice shall specify such record date or the date of closing the transfer books or the date of expiration, as the case may be. Failure to publish, mail or receive such notice or any defect therein or in the publication or mailing thereof shall not affect the validity of any action in connection with such dividend, distribution or subscription rights, or such proposed dissolution, liquidation or winding up, or such offer.

SECTION 13. Appointment of Warrant Agent. At such time as the Company shall register Warrants under the Act, the Company shall appoint a Warrant Agent to act on behalf of the Company in connection with the issuance, division, transfer and exercise of Warrants. At such time as the Company appoints a Warrant Agent, the Company shall enter into a new Warrant Agreement with the Warrant Agent pursuant to which all new Warrants will be issued upon registration of transfer or division, which will reflect the appointment of the Warrant Agent, as well as additional customary provisions as shall be reasonably requested by the Warrant Agent in connection with the performance of its duties. In the event that a Warrant Agent is appointed, the Company shall (i) promptly notify the Holders of such appointment and the place designated for transfer, exchange and exercise of the Warrants, and (ii) take such steps as are necessary to insure that Warrants issued prior to such appointment may be exchanged for Warrants countersigned by the Warrant Agent.

SECTION 14. Notices; Principal Office. Any notice pursuant to this Agreement by the Company or by any Holder to the Warrant Agent (if so appointed), or by the Warrant Agent (if so appointed) or by any Holder to the Company, shall be in writing and shall be delivered in person, or mailed first class, postage prepaid (a) to the Company, at its office, Attention: President or (b) to the Warrant Agent, at its offices as designated at the time the Warrant Agent is appointed. The address of the principal office of the Company is 935 Pardee Street, Berkeley, California 94710. Each party hereto may from time to time change the address to which notices to it are to be delivered or mailed hereunder by notice to the other party.

Any notice mailed pursuant to this Agreement by the Company or the Warrant Agent to the Holders shall be in writing and shall be mailed first class, postage prepaid, or otherwise delivered, to such Holders at their respective addresses on the books of the Company or the Warrant Agent, as the case may be.

SECTION 15. Successors. Except as expressly provided herein to the contrary, all the covenants and provisions of this Agreement by or for the benefit of the Company and the Lender shall bind and inure to the benefit of their respective successors and permitted assigns hereunder.

SECTION 16. Merger or Consolidation of the Company. The Company will not merge or consolidate with or into, or sell, transfer or lease all or substantially all of its property to, any other corporation unless the successor or purchasing corporation, as the case may be (if not the Company), shall expressly assume, by supplemental agreement, the due and punctual performance and observance of each and every covenant and condition of this Agreement to be performed and observed by the Company.

SECTION 17. Investment Representations. Lender represents and warrants to BioTime that:

17.1 Lender has received the Company's financial statements for the year ended on December 31, 2001, as will be included in its Form 10-K for such fiscal year, its annual report on Form 10-K for the fiscal year ended December 31, 2000, and quarterly report on Form 10-Q for the fiscal quarter and nine months ended September 30, 2001 (the "Disclosure Documents"). Lender is relying on the information provided in the Disclosure Documents or otherwise communicated to Lender in writing by the Company. Lender has not relied on any statement or representations inconsistent with those contained in the Disclosure Documents. Lender has had a reasonable opportunity to ask questions of and receive answers from the executive officers and directors of the Company, or one or more of its officers, concerning the Company and to obtain additional information, to the extent possessed or obtainable without unreasonable effort or expense, necessary to verify the information in the Disclosure Documents. All such questions have been answered to Lender's satisfaction;

17.2 Lender understands that the Warrant and the Warrant Shares are being offered and sold without registration under the Act or qualification under the California Corporate Securities Law of 1968, or under the laws of other states, in reliance upon the exemptions from such registration and qualification requirements for non-public offerings. Lender acknowledges and understands that the availability of the aforesaid exemptions depends in part upon the accuracy of certain of the representations, declarations and warranties contained herein, which Lender hereby makes with the intent that they may be relied upon by the Company and its officers and directors in determining Lender's suitability to acquire the Warrant. Lender understands and acknowledges that no federal, state or other agency has reviewed or endorsed the offering of the Warrant or the Warrant Shares or made any finding or determination as to the fairness of the offering or completeness of the information in the Disclosure Documents;

17.3 Lender understands that the Warrant and the Warrant Shares may not be offered, sold, or transferred in any manner, and the Warrant may not be exercised, unless subsequently registered under the Act, or unless there is an exemption from such registration available for such offer, sale or transfer;

17.4 Lender has such knowledge and experience in financial and business matters to enable Lender to utilize the information contained in the Disclosure Documents, or otherwise made available to Lender to evaluate the merits and risks of an investment in the

Warrant and the Warrant Shares and to make an informed investment decision with respect thereto.

17.5 Lender is acquiring the Warrant solely for Lender's own account and for long-term investment purposes, and not with a view to, or for sale in connection with, any distribution of the Warrant or Warrant Shares; and

17.6 Lender is an "accredited investor," as such term is defined in Regulation D promulgated under the Act.

#### SECTION 18. Registration Rights.

18.1 The Company agrees, at its expense, upon written request from the Lender, to register under the Act, the Warrant and the Warrant Shares and to take such other actions as may be necessary to allow the Warrant and the Warrant Shares to be freely tradable, without restrictions, in compliance with all regulatory requirements. A written request for registration shall specify the quantity of the Warrant Shares intended to be sold, the plan of distribution and the identity of the sellers, which may include the Lender and assignees of its rights hereunder (collectively, "Selling Securities Holders"), and whether the registration shall be pursuant to an underwritten public offering or a "shelf" registration pursuant to Rule 415 (or similar rule that may be adopted by the Securities and Exchange Commission). The Company shall not be obligated to file more than two such registration statements, other than registration statements on Form S-3. The Company shall keep such registration statements effective for a period of at least nine months, except that registration statements on Form S-3 shall be kept effective for at least three years (or such lesser period as the parties may agree, but in no event beyond the completion of the distribution or distributions being made pursuant thereto). The Company shall utilize Form S-3 if it qualifies for such use. The Company shall make all filings required with respect to the registration statements and will use its best efforts to cause such filings to become effective, so that the Warrant and Warrant Shares being registered shall be registered or qualified for sale under the securities or blue sky laws of such jurisdictions as shall be reasonably appropriate for distribution of the Warrant and Warrant Shares covered by the registration statement. The Company will furnish to the Selling Securities Holders such numbers of copies of a prospectus, including a preliminary prospectus, in conformity with the requirements of the Act and such other related documents as the Selling Securities Holders may reasonably request in order to effect the sale of the Warrant and Warrant Shares. To effect any offering pursuant to a registration statement under this Section, the Company shall enter into an agreement containing customary representations and warranties, and indemnification and contribution provisions, all for the benefit of Selling Securities Holders, and, in the case of an Underwritten public offering, an underwriting agreement with an investment banking firm selected by the Lender and reasonably acceptable to the Company, containing such customary representations and warranties, and indemnification and contribution provisions

18.2 If, at any time, the Company proposes to register any of its securities under the Act (otherwise than pursuant to Section 18.1 above or on a Form S-8 if such form cannot be used for registration of the Warrant or Warrant Shares pursuant to its terms), the Company shall, as promptly as practicable, give written notice to the Lender. The Company shall include in such registration statement the Warrant and any Warrant Shares proposed to be sold by the Selling

Securities Holders. Notwithstanding the foregoing, if the offering of the Company's securities is to be made through underwriters, the Company shall not be required to include the Warrant and Warrant Shares if and to the extent that the managing underwriter reasonably believes in good faith that such inclusion would materially adversely affect such offering unless the Selling Securities Holders agree to postpone their sales until 10 days after the distribution is completed.

18.3 The Company shall pay the cost of the registration statements filed pursuant to this Agreement, including without limitation all registration and filing fees, fees and expenses of compliance with securities or blue sky laws (including counsel's fees and expenses in connection therewith), printing expenses, messenger and delivery expenses, internal expenses of the Company, listing fees and expenses, and fees and expenses of the Company's counsel, independent accountants and other persons retained or employed by the Company. Selling Securities Holders shall pay any underwriters discounts applicable to the Warrant and Warrant Shares.

SECTION 19. Legends. The Warrants and Warrant Shares issued pursuant to this Agreement shall bear an appropriate legend, conspicuously disclosing the restrictions on exercise and transfer under Section 2.2 of this Agreement until the same are registered for sale under the Act. The Company agrees that upon the sale of the Warrant and Warrant Shares pursuant to a registration statement or an exemption, upon the presentation of the certificates containing such a legend to its transfer agent, it will remove such legend. The Company further agrees to remove the legend at such time as registration under the Act shall no longer be required.

SECTION 20. Applicable Law. This Agreement and each Warrant issued hereunder shall be governed by and construed in accordance with the laws of the State of California, without giving effect to principles of conflict of laws.

SECTION 21. Benefits of this Agreement. Nothing in this Agreement shall be construed to give to any person or corporation other than the Company, the Warrant Agent (if appointed) and the Holders any legal or equitable right, remedy or claim under this Agreement; but this Agreement shall be for the sole and exclusive benefit of the Company, the Warrant Agent and the Holders of the Warrants.

SECTION 22. Counterparts. This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument.

SECTION 23. Captions. The captions of the Sections and subsections of this Agreement have been inserted for convenience only and shall have no substantive effect.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed, all as of the day and year first above written.

BIOTIME, INC.

By:

Name: Paul Segall, Ph.D

Title: Chairman and Chief  
Executive Officer

Attest:

By:

Name: Judith Segall  
Title: Secretary

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Alfred D. Kingsley

EXHIBIT A

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR UNDER APPLICABLE STATE SECURITIES LAWS. THIS WARRANT MAY NOT BE EXERCISED, SOLD, PLEDGED, HYPOTHECATED, TRANSFERRED OR ASSIGNED EXCEPT UNDER AN EFFECTIVE REGISTRATION STATEMENT UNDER SUCH ACT AND APPLICABLE STATE SECURITIES LAWS, UNLESS AN EXEMPTION FROM SUCH REGISTRATION IS AVAILABLE.

VOID AFTER 5:00 P.M. NEW YORK TIME, March 26, 2007

Certificate No. \_\_\_\_\_

Warrant to Purchase  
[Insert number of Shares]  
Shares of Common Stock

BIOTIME, INC.  
COMMON SHARE PURCHASE WARRANTS

This certifies that, for value received, [Insert name of Holder] or registered assigns (the "Holder"), is entitled to purchase from BioTime, Inc. a California corporation (the "Company"), at a purchase price per share [Insert Warrant Price determined pursuant to Sections 9 and 10 of the Warrant Agreement] (the "Warrant Price"), the number of its Common Shares, no par value per share (the "Common Stock"), shown above. The number of shares purchasable upon exercise of the Common Share Purchase Warrants (the "Warrants") and the Warrant Price are subject to adjustment from time to time as set forth in the Warrant Agreement referred to below. Outstanding Warrants not exercised prior to 5:00 p.m., New York time, on March 26, 2007 shall thereafter be void.

Subject to restriction specified in the Warrant Agreement, Warrants may be exercised in whole or in part by presentation of this Warrant Certificate with the Purchase Form on the reverse side hereof duly executed, which signature shall be guaranteed by a bank or trust company or a broker or dealer which is a member of the National Association of Securities Dealers, Inc., and simultaneous payment of the Warrant Price (or as otherwise set forth in Section 10.5) of the Warrant Agreement at the principal office of the Company (or if a Warrant Agent is appointed, at the principal office of the Warrant Agent). Payment of such price shall be made in cash or by certified or bank cashier's check. As provided in the Warrant Agreement, the Warrant Price and the number or kind of shares which may be purchased upon the exercise of the Warrant evidenced by this Warrant Certificate are, upon the happening of certain events, subject to modification and adjustment.

This Warrant Certificate is issued under and in accordance with a Warrant Agreement dated as of March 27, 2002 between the Company and Alfred D. Kingsley and is subject to the terms and provisions contained in the Warrant Agreement, to all of which the Holder of this

Warrant Certificate by acceptance of this Warrant Certificate consents. A copy of the Warrant Agreement may be obtained by the Holder hereof upon written request to the Company. In the event that pursuant to Section 13 of the Warrant Agreement a Warrant Agent is appointed and a new warrant agreement entered into between the Company and such Warrant Agent, then such new warrant agreement shall constitute the Warrant Agreement for purposes hereof and this Warrant Certificate shall be deemed to have been issued pursuant to such new warrant agreement.

Upon any partial exercise of the Warrant evidenced by this Warrant Certificate, there shall be issued to the Holder hereof a new Warrant Certificate in respect of the shares of Common Stock as to which the Warrant evidenced by this Warrant Certificate shall not have been exercised. This Warrant Certificate may be exchanged at the office of the Company (or the Warrant Agent, if appointed) by surrender of this Warrant Certificate properly endorsed either separately or in combination with one or more other Warrant Certificates for one or more new Warrant Certificates evidencing the right of the Holder thereof to purchase the aggregate number of shares as were purchasable on exercise of the Warrants evidenced by the Warrant Certificate or Certificates exchanged. No fractional shares will be issued upon the exercise of any Warrant, but the Company will pay the cash value thereof determined as provided in the Warrant Agreement. This Warrant Certificate is transferable at the office of the Company (or the Warrant Agent, if appointed) in the manner and subject to the limitations set forth in the Warrant Agreement.

The Holder hereof may be treated by the Company, the Warrant Agent (if appointed) and all other persons dealing with this Warrant Certificate as the absolute owner hereof for any purpose and as the person entitled to exercise the rights represented hereby, or to the transfer hereof on the books of the Company, any notice to the contrary notwithstanding, and until such transfer on such books, the Company (and the Warrant Agent, if appointed) may treat the Holder hereof as the owner for all purposes.

Neither the Warrant nor this Warrant Certificate entitles any Holder to any of the rights of a stockholder of the Company.

[This Warrant Certificate shall not be valid or obligatory for any purpose until it shall have been countersigned by the Warrant Agent.]\*



DATED:

BIOTIME, INC.

(Seal)

By: \_\_\_\_\_

Title:

Attest: \_\_\_\_\_

[COUNTERSIGNED:

WARRANT AGENT

By: \_\_\_\_\_]\*  
Authorized Signature

\* -----  
To be part of the Warrant only after the appointment of a Warrant Agent pursuant to Section 13 of the Warrant Agreement.

PURCHASE FORM

(To be executed upon exercise of Warrant)

To BioTime, Inc.:

The undersigned hereby irrevocably elects to exercise the right of purchase represented by the within Warrant Certificate for, and to purchase thereunder, \_\_\_\_\_ shares of Common Stock, as provided for therein, and tenders herewith payment of the purchase price in full in the form of cash or a certified or bank cashier's check in the amount of \$\_\_\_\_\_.

Please issue a certificate or certificates for such shares of Common Stock in the name of, and pay any cash for any fractional share to:

PLEASE INSERT SOCIAL SECURITY  
OR OTHER IDENTIFYING NUMBER  
OF ASSIGNEE

NAME  
(Please Print Name &  
Address)

\_\_\_\_\_  
\_\_\_\_\_

Address

Signature

NOTE: The above signature should correspond exactly with the name on the face of this Warrant Certificate or with the name of the assignee appearing in the assignment form below.

And, if said number of shares shall not be all the shares purchasable under the within Warrant Certificate, a new Warrant Certificate is to be issued in the name of said undersigned for the balance remaining of the share purchasable thereunder less any fraction of a share paid in cash.

ASSIGNMENT

(To be executed only upon assignment of Warrant Certificate)

For value received, \_\_\_\_\_ hereby sells, assigns and transfers unto \_\_\_\_\_ the within Warrant Certificate, together with all right, title and interest therein, and does hereby irrevocably constitute and appoint \_\_\_\_\_ attorney, to transfer said Warrant Certificate on the books of the within-named Company, with full power of substitution in the premises.

Dated: \_\_\_\_\_

\_\_\_\_\_  
NOTE: The above signature should correspond exactly with the name on the face of this Warrant Certificate.

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Warrant Agreement

Dated as of March 27, 2002  
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WARRANT AGREEMENT, dated as of March 27, 2002, between BioTime, Inc., a California corporation (the "Company"), and Alfred D. Kingsley (the "Lender").

The Company proposes to issue a Common Share Purchase Warrant, as hereinafter described (the "Warrants"), to purchase up to an aggregate of 30,000 of its Common Shares, no par value (the "Common Stock") (the shares of Common Stock issuable upon exercise of the Warrants being referred to herein as the "Warrant Shares"), in connection with the Revolving Line of Credit Agreement of even date (the "Credit Agreement"), between the Company and the Lender.

In consideration of the foregoing and for the purpose of defining the terms and provisions of the Warrant and the respective rights and obligations thereunder of the Company and each registered owner of the Warrant (the "Holder"), the Company and the Lender hereby agree as follows:

SECTION 1. Issuance of Warrants; Term of Warrants. Concurrently with the execution and delivery of this Agreement and the Credit Agreement, the Company is issuing and delivering to the Lender a Warrant to purchase 30,000 Warrant Shares, which Warrant shall be represented by a certificate in substantially the form of Exhibit A hereto. Subject to the terms of this Agreement, a Holder of any of such Warrant (including any Warrants into which the Warrant may be divided) shall have the right, which may be exercised at any time prior to 5:00 p.m., New York Time on March 26, 2007 (the "Expiration Date"), to purchase from the Company the number of fully paid and nonassessable Warrant Shares which the Holder may at the time be entitled to purchase upon exercise of any of such Warrant.

SECTION 2. Transferability and Form of Warrant.

2.1 Registration. The Warrant shall be numbered and shall be registered on the books of the Company (the "Warrant Register") as issued. The Company and the Warrant Agent (if appointed) shall be entitled to treat the Holder of any Warrant as the owner in fact thereof for all purposes and shall not be bound to recognize any equitable or other claim or interest in such Warrant on the part of any other person, and shall not be liable for any registration of transfer of any Warrant which is registered or to be registered in the name of a fiduciary or the nominee of a fiduciary unless made with the actual knowledge that a fiduciary or nominee is committing a breach of trust in requesting such registration or transfer, or with such knowledge of such facts that its participation therein amounts to bad faith. The Warrant shall initially be registered in the name of the Lender.

2.2 Restrictions on Exercise and Transfer. The Warrant may not be exercised, sold, pledged, hypothecated, transferred or assigned, in whole or in part, unless a registration statement under the Securities Act of 1933, as amended (the "Act"), and under any applicable state securities laws is effective therefor or, an exemption from such registration is then available. Any exercise, sale, pledge, hypothecation, transfer, or assignment in violation of the foregoing restriction shall be deemed null and void and of no binding effect. The Company

shall be entitled to obtain, as a condition precedent to its issuance of any certificates representing Warrant Shares or any other securities issuable upon any exercise of the Warrant, a letter or other instrument from the Holder containing such covenants, representations or warranties by such Holder as reasonably deemed necessary by Company to effect compliance by the Company with the requirements of applicable federal and/or state securities laws.

2.3 Transfer. Subject to Section 2.2, the Warrant shall be transferable only on the Warrant Register upon delivery thereof duly endorsed by the Holder or by his duly authorized attorney or representative, or accompanied by proper evidence of succession, assignment or authority to transfer, which endorsement shall be guaranteed by a bank or trust company or a broker or dealer which is a member of the National Association of Securities Dealers, Inc. In all cases of transfer by an attorney, the original power of attorney, duly approved, or a copy thereof, duly certified, shall be deposited and remain with the Company (or the Warrant Agent, if appointed). In case of transfer by executors, administrators, guardians or other legal representatives, duly authenticated evidence of their authority shall be produced, and may be required to be deposited and remain with the Company (or the Warrant Agent, if appointed) in its discretion. Upon any registration of transfer, the Company shall execute and deliver (or if appointed, the Warrant Agent shall countersign and deliver) a new Warrant or Warrants to the persons entitled thereto.

2.4 Form of Warrant. The text of the Warrant and of the Purchase Form shall be substantially as set forth in Exhibit A attached hereto. The price per Warrant Share and the number of Warrant Shares issuable upon exercise of each Warrant are subject to adjustment upon the occurrence of certain events, all as hereinafter provided. The Warrants shall be executed on behalf of the Company by its Chairman of the Board, President or one of its Vice Presidents, under its corporate seal reproduced thereon attested by its Secretary or Assistant Secretary. The signature of any such officers on the Warrants may be manual or facsimile, provided, however, that the signature of any such officers must be manual until such time as a Warrant Agent is appointed.

Warrants bearing the manual or facsimile signatures of individuals who were at any time the proper officers of the Company shall bind the Company, notwithstanding that such individuals or any one of them shall have ceased to hold such offices prior to the delivery of such Warrants or did not hold such offices on the date of this Agreement.

In the event that the Company shall appoint a Warrant Agent to act on its behalf in connection with the division, transfer, exchange or exercise of Warrants, the Warrants issued after the date of such appointment shall be dated as of the date of countersignature thereof by the Warrant Agent upon division, exchange, substitution or transfer. Until such time as the Company shall appoint a Warrant Agent, Warrants shall be dated as of the date of execution thereof by the Company either upon initial issuance or upon division, exchange, substitution or transfer.

SECTION 3. Countersignature of Warrants. In the event that the Company shall appoint a Warrant Agent to act on its behalf in connection with the division, transfer, exchange or exercise of Warrants, the Warrants issued after the date of such appointment shall be counter signed by the Warrant Agent (or any successor to the Warrant Agent then acting as warrant agent) and shall not be valid for any purpose unless so countersigned. Warrants may be countersigned, however, by the Warrant Agent (or by its successor as warrant agent hereunder) and may be delivered by the Warrant Agent, notwithstanding that the persons whose manual or facsimile signatures appear thereon as proper officers of the Company shall have ceased to be such officers at the time of such countersignature, issuance or delivery. The Warrant Agent (if so appointed) shall, upon written instructions of the Chairman of the Board, the President, an Executive or Senior Vice President, the Treasurer or the Controller of the Company, countersign, issue and deliver Warrants entitling the Holders thereof to purchase not more than 30,000 Warrant Shares (subject to adjustment pursuant to Section 10 hereof) and shall countersign and deliver Warrants as otherwise provided in this Agreement.

SECTION 4. Exchange of Warrant Certificates. Each Warrant certificate may be exchanged, at the option of the Holder thereof, for another Warrant certificate or Warrant certificates in different denominations entitling the Holder or Holders thereof to purchase a like aggregate number of Warrant Shares as the certificate or certificates surrendered then entitle each Holder to purchase. Any Holder desiring to exchange a Warrant certificate or certificates shall make such request in writing delivered to the Company at its principal office (or, if a Warrant Agent is appointed, the Warrant Agent at its principal office) and shall surrender, properly endorsed, the certificate or certificates to be so exchanged. Thereupon, the Company (or, if appointed, the Warrant Agent) shall execute and deliver to the person entitled thereto a new Warrant certificate or certificates, as the case may be, as so requested, in such name or names as such Holder shall designate.

SECTION 5. Exercise of Warrants; Listing.

5.1 Exercise of Warrants. A Warrant may be exercised upon surrender of the certificate or certificates evidencing the Warrants to be exercised, together with the form of election to purchase on the reverse thereof duly filled in and signed, which signature shall be guaranteed by a bank or trust company or a broker or dealer which is a member of the National Association of Securities Dealers, Inc., to the Company at its principal office (or if appointed, the principal office of the Warrant Agent) and upon payment of the Warrant Price (as defined in and determined in accordance with the provisions of Sections 9 and 10 hereof) to the Company (or if appointed, to the Warrant Agent for the account of the Company), for the number of Warrant Shares in respect of which such Warrants are then exercised. Payment of the aggregate Warrant Price (defined in Section 9 herein) shall be made in cash or by certified or bank cashier's check.

Subject to Section 6 hereof, upon the surrender of the Warrant and payment of the Warrant Price as aforesaid, the Company (or if appointed, the Warrant Agent) shall cause to be issued and delivered with all reasonable dispatch to or upon the written order of the Holder and in such name or names as the Holder may designate, a certificate or certificates for the number of full Warrant Shares so purchased upon the exercise of such Warrant, together with cash, as provided in Section 11 hereof, in respect of any fractional Warrant Shares otherwise issuable upon such surrender. Such certificate or certificates shall be deemed to have been issued and any person so designated to be named therein shall be deemed to have become a holder of record of such Warrant Shares as of the date of the surrender of such Warrants and payment of the Warrant Price, as aforesaid. The rights of purchase represented by the Warrant shall be exercisable, at the election of the Holder thereof, either in full or from time to time in part and, in the event that a certificate evidencing the Warrant is exercised in respect of less than all of the Warrant Shares purchasable on such exercise at any time prior to the date of expiration of the Warrant, a new certificate evidencing the unexercised portion of the Warrant will be issued, and the Warrant Agent (if so appointed) is hereby irrevocably authorized to countersign and to deliver the required new Warrant certificate or certificates pursuant to the provisions of this Section and Section 3 hereof, and the Company, whenever required by the Warrant Agent (if appointed), will supply the Warrant Agent with Warrant certificates duly executed on behalf of the Company for such purpose.

5.2 Listing of Shares on Securities Exchange; Exchange Act Registration. The Company will promptly use its best efforts to cause the Warrant Shares to be listed, subject to official notice of issuance, on all national securities exchanges on which the Common Stock is listed and whose rules and regulations require such listing, as soon as possible following the date hereof.

The Company will promptly notify the Holders in the event that the Company plans to register the Warrants with the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

SECTION 6. Payment of Taxes. The Company will pay all documentary stamp taxes, if any, attributable to the initial issuance of Warrant Shares upon the exercise of Warrants; provided, however, that the Company shall not be required to pay any tax or taxes which may be payable in respect of any transfer involved in the issue or delivery of any Warrant or certificates for Warrant Shares in a name other than that of the registered Holder of such Warrants.

SECTION 7. Mutilated or Missing Warrants. In case any of the certificates evidencing the Warrants shall be mutilated, lost, stolen or destroyed, the Company may in its discretion issue and deliver (and, if appointed, the Warrant Agent shall countersign and deliver) in exchange and substitution for and upon cancellation of the mutilated Warrant certificate, or in lieu of and substitution for the Warrant certificate lost, stolen or destroyed, a new Warrant certificate of like tenor, but only upon receipt of evidence reasonably satisfactory to the Company and the Warrant Agent (if so appointed) of such loss, theft or destruction of such

Warrant and an indemnity or bond, if requested, also reasonably satisfactory to them. An applicant for such a substitute Warrant certificate shall also comply with such other reasonable regulations and pay such other reasonable charges as the Company (or the Warrant Agent, if so appointed) may prescribe.

SECTION 8. Reservation of Warrant Shares; Purchase and Cancellation of Warrants.

8.1 Reservation of Warrant Shares. There have been reserved, and the Company shall at all times keep reserved, out of its authorized Common Stock, a number of shares of Common Stock sufficient to provide for the exercise of the rights of purchase represented by the outstanding Warrants and any additional Warrants issuable hereunder. The Transfer Agent for the Common Stock and every subsequent transfer agent for any shares of the Company's capital stock issuable upon the exercise of any of the rights of purchase aforesaid will be irrevocably authorized and directed at all times to reserve such number of authorized shares as shall be required for such purpose. The Company will keep a copy of this Agreement on file with the Transfer Agent for the Common Stock and with every subsequent transfer agent for any shares of the Company's capital stock issuable upon the exercise of the rights of purchase represented by the Warrants. The Warrant Agent, if appointed, will be irrevocably authorized to requisition from time to time from such Transfer Agent the stock certificates required to honor outstanding Warrants upon exercise thereof in accordance with the terms of this Agreement. The Company will supply such Transfer Agent with duly executed stock certificates for such purposes and will provide or otherwise make available any cash which may be payable as provided in Section 11 hereof. The Company will furnish such Transfer Agent a copy of all notices of adjustments and certificates related thereto, transmitted to each Holder pursuant to subsection 10.3 hereof.

8.2 Purchase of Warrants by the Company. The Company shall have the right, except as limited by law, other agreements or herein, with the consent of the Holder, to purchase or otherwise acquire Warrants at such times, in such manner and for such consideration as it may deem appropriate.

8.3 Cancellation of Warrants. In the event the Company shall purchase or otherwise acquire Warrants, the same shall thereupon be cancelled and retired. The Warrant Agent (if so appointed) shall cancel any Warrant surrendered for exchange, substitution, transfer or exercise in whole or in part.

SECTION 9. Warrant Price. Subject to any adjustments required by Section 10 hereof, the price per share at which Warrant Shares shall be purchasable upon exercise of a Warrant (as to any particular Warrant, the "Warrant Price") shall be Four Dollars (\$4.00) per share.



SECTION 10. Adjustment of Warrant Price and Number of Warrant Shares. The number and kind of securities purchasable upon the exercise of each Warrant and the Warrant Price shall be subject to adjustment from time to time upon the happening of certain events, as hereinafter defined.

10.1 Adjustments. The number of Warrant Shares purchasable upon the exercise of each Warrant and the Warrant Price shall be subject to adjustment as follows:

(a) In the event that the Company shall (i) pay a dividend in shares of Common Stock or make a distribution in shares of Common Stock, (ii) subdivide its outstanding shares of Common Stock, (iii) combine its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) reclassify or change (including a change to the right to receive, or a change into, as the case may be (other than with respect to a merger or consolidation pursuant to the exercise of appraisal rights), shares of stock, other securities, property, cash or any combination thereof) its Common Stock (including any such reclassification or change in connection with a consolidation or merger in which the Company is the surviving corporation), the number of Warrant Shares purchasable upon exercise of each Warrant immediately prior thereto shall be adjusted so that the Holder of each Warrant shall be entitled to receive the kind and number of Warrant Shares or other securities of the Company or other property which he would have owned or have been entitled to receive after the happening of any of the events described above, had such Warrant been exercised immediately prior to the happening of such event or any record date with respect thereto. An adjustment made pursuant to this paragraph (a) shall become effective immediately after the effective date of such event retroactive to the record date, if any, for such event.

(b) In case the Company shall issue rights, options or warrants to all holders of its outstanding Common Stock, without any charge to such holders, entitling them to subscribe for or purchase shares of Common Stock at a price per share which is lower at the record date mentioned below than the then current market price per share of Common Stock (as defined in paragraph (d) below), the number of Warrant Shares thereafter purchasable upon the exercise of each Warrant shall be determined by multiplying the number of Warrant Shares theretofore purchasable upon exercise of each Warrant by a fraction, of which the numerator shall be the number of shares of Common Stock outstanding on the date of issuance of such rights, options or warrants plus the number of additional shares of Common Stock offered for subscription or purchase in connection with such rights, options or warrants, and of which the denominator shall be the number of shares of Common Stock outstanding on the date of issuance of such rights, options or warrants plus the number of shares which the aggregate offering price of the total number of shares of Common Stock so offered would purchase at the current market price per share of Common Stock at such record date. Such adjustment shall be made whenever such rights, options or warrants are issued, and shall become effective immediately after the record date for the determination of stockholders entitled to receive such rights, options or warrants.

(c) In case the Company shall distribute to all holders of its shares of Common Stock, (including any distribution made in connection with a merger in which the Company is the surviving corporation), evidences of its indebtedness or assets (excluding cash, dividends or distributions payable out of consolidated earnings or earned surplus and dividends or distributions referred to in paragraph (a) above) or rights, options or warrants, or convertible or exchangeable securities containing the right to subscribe for or purchase shares of Common

Stock (excluding those referred to in paragraph (b) above), then in each case the number of Warrant Shares thereafter purchasable upon the exercise of each Warrant shall be determined by multiplying the number of Warrant Shares theretofore purchasable upon the exercise of each Warrant by a fraction, of which the numerator shall be the then current market price per share of Common Stock (as defined in paragraph (d) below) on the date of such distribution, and of which the denominator shall be the then current market price per share of Common Stock, less the then fair value (as determined by the Board of Directors of the Company or, in the case of Warrants held by the Lender, an independent investment banker which shall be mutually agreeable to the parties, whose determination, in each case, shall be conclusive) of the portion of the assets or evidences of indebtedness so distributed or of such subscription rights, options or warrants, or of such convertible or exchangeable securities applicable to one share of Common Stock. Such adjustment shall be made whenever any such distribution is made, and shall become effective on the date of distribution retroactive to the record date for the determination of shareholders entitled to receive such distribution.

(d) For the purpose of any computation under paragraphs (b) and (c) of this Section, the current market price per share of Common Stock at any date shall be the average of the daily last sale prices for the 20 consecutive trading days ending one trading day prior to the date of such computation. The closing price for each day shall be the last reported sales price regular way or, in case no such reported sale takes place on such day, the average of the closing bid and asked prices regular way for such day, in each case on the principal national securities exchange on which the shares of Common Stock are listed or admitted to trading or, if not so listed or admitted to trading, the last sale price of the Common Stock on the Nasdaq Stock Market or any comparable system. If the current market price of the Common Stock cannot be so determined, the Board of Directors of the Company shall reasonably determine the current market price on the basis of such quotations as are available.

(e) No adjustment in the number of Warrant Shares purchasable hereunder shall be required unless such adjustment would require an increase or decrease of at least one percent (1%) in the number of Warrant Shares purchasable upon the exercise of each Warrant; provided, however, that any adjustments which by reason of this paragraph (e) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations shall be made with respect to the number of Warrant Shares purchasable hereunder, to the nearest tenth of a share and with respect to the Warrant Price payable hereunder, to the nearest whole cent.

(f) Whenever the number of Warrant Shares purchasable upon the exercise of each Warrant is adjusted, as herein provided, the Warrant Price payable upon exercise of each Warrant shall be adjusted by multiplying such Warrant Price immediately prior to such adjustment by a fraction, of which the numerator shall be the number of Warrant Shares purchasable upon the exercise of each Warrant immediately prior to such adjustment, and of which the denominator shall be the number of Warrant Shares purchasable immediately thereafter.

(g) No adjustment in the number of Warrant Shares purchasable upon the exercise of each Warrant need be made under paragraphs (b) and (c) if the Company issues or distributes to each Holder of Warrants the rights options, warrants, or convertible or exchangeable securities, or evidences of indebtedness or assets referred to in those paragraphs which each Holder of Warrants would have been entitled to receive had the Warrants been exercised prior to the happening of such event or the record date with respect thereto. No adjustment need be made for a change in the par value of the Warrant Shares.

(h) For the purpose of this subsection 10.1, the term "shares of Common Stock" shall mean (i) the class of stock designated as the Common Stock of the Company at the date of this Agreement, or (ii) any other class of stock resulting from successive changes or reclassifications of such shares consisting solely of changes in par value, or from par value to no par value, or from no par value to par value. In the event that at any time, as a result of an adjustment made pursuant to paragraph (a) above, the Holders shall become entitled to purchase any securities of the Company other than shares of Common Stock, thereafter the number of such other shares so purchasable upon exercise of each Warrant and the Warrant Price of such shares shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the Warrant Shares contained in paragraphs (a) through (i), inclusive, and the provisions of Section 5 and subsections 10.2 through 10.5, inclusive, with respect to the Warrant Shares, shall apply on like terms to any such other securities.

(i) Upon the expiration of any rights, options, warrants or conversion or exchange privileges, if any thereof shall not have been exercised, the Warrant Price and the number of Warrant Shares purchasable upon the exercise of each Warrant shall, upon such expiration, be readjusted and shall thereafter be such as it would have been had it been originally adjusted (or had the original adjustment not been required, as the case may be) as if (A) the only shares of Common Stock so issued were the shares of Common Stock, if any, actually issued or sold upon the exercise of such rights, options, warrants or conversion or exchange rights and (B) such shares of Common Stock, if any, were issued or sold for the consideration actually received by the Company upon such exercise plus the aggregate consideration, if any, actually received by the Company for the issuance, sale or grant of all such rights, options, warrants or conversion or exchange rights whether or not exercised.

10.2 Voluntary Adjustment by the Company. The Company may at its option, at any time during the term of the Warrants, reduce the then current Warrant Price to any amount deemed appropriate by the Board of Directors of the Company.

10.3 Notice of Adjustment. Whenever the number of Warrant Shares purchasable upon the exercise of each Warrant or the Warrant Price of such Warrant Shares is adjusted, as herein provided, the Company shall, or in the event that a Warrant Agent is appointed, the Company shall cause the Warrant Agent promptly to, mail by first class, postage prepaid, to each Holder notice of such adjustment or adjustments. Such notice shall set forth the number of Warrant Shares purchasable upon the exercise of each Warrant and the Warrant Price

of such Warrant Shares after such adjustment, setting forth a brief statement of the facts requiring such adjustment and setting forth the computation by which such adjustment was made.

10.4 No Adjustment for Dividends. Except as provided in subsection 10.1, no adjustment in respect of any dividends shall be made during the term of a Warrant or upon the exercise of a Warrant.

10.5 Preservation of Purchase Rights Upon Merger, Consolidation, etc. In case of any consolidation of the Company with or merger of the Company into another corporation or in case of any sale, transfer or lease to another corporation of all or substantially all the property of the Company, the Company or such successor or purchasing corporation, as the case may be, shall execute an agreement that each Holder shall have the right thereafter, upon such Holder's election, either (i) upon payment of the Warrant Price in effect immediately prior to such action, to purchase upon exercise of each Warrant the kind and amount of shares and other securities and property (including cash) which he would have owned or have been entitled to receive after the happening of such consolidation, merger, sale, transfer or lease had such Warrant been exercised immediately prior to such action (such shares and other securities and property (including cash) being referred to as the "Sale Consideration") or (ii) to receive, in cancellation of such Warrant (and in lieu of paying the Warrant price and exercising such Warrant), the Sale Consideration less a portion thereof having a fair market value (as reasonably determined by the Company) equal to the Warrant Price (it being understood that, if the Sale Consideration consists of more than one type of shares, other securities or property, the amount of each type of shares, other securities or property to be received shall be reduced proportionately); provided, however, that no adjustment in respect of dividends, interest or other income on or from such shares or other securities and property shall be made during the term of a Warrant or upon the exercise of a Warrant. The Company shall mail by first class mail, postage prepaid, to each Holder, notice of the execution of any such agreement. Such agreement shall provide for adjustments, which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 10. The provisions of this subsection 10.5 shall similarly apply to successive consolidations, mergers, sales, transfers or leases. The Warrant Agent (if appointed) shall be under no duty or responsibility to determine the correctness of any provisions contained in any such agreement relating to the kind or amount of shares of stock or other securities or property receivable upon exercise of Warrants or with respect to the method employed and provided therein for any adjustments and shall be entitled to rely upon the provisions contained in any such agreement.

10.6 Statement on Warrants. Irrespective of any adjustments in the Warrant Price or the number or kind of shares purchasable upon the exercise of the Warrants, Warrants issued before or after such adjustment may continue to express the same price and number and kind of shares as are stated in the Warrants initially issuable pursuant to this Agreement.

SECTION 11. Fractional Interests. The Company shall not be required to issue fractional Warrant Shares on the exercise of Warrants. If more than one Warrant shall be presented for exercise in full at the same time by the same Holder, the number of full Warrant

Shares which shall be issuable upon the exercise thereof shall be computed on the basis of the aggregate number of Warrant Shares purchasable on exercise of the Warrants so presented. If any fraction of a Warrant Share would, except for the provisions of this Section 11, be issuable on the exercise of any Warrant (or specified portion thereof), the Company shall pay an amount in cash equal to the average of the daily closing sale prices (determined in accordance with paragraph (d) of subsection 10.1) per share of Common Stock for the 20 consecutive trading days ending one trading day prior to the date the Warrant is presented for exercise, multiplied by such fraction.

SECTION 12. No Rights as Shareholders; Notices to Holders. Nothing contained in this Agreement or in any of the Warrants shall be construed as conferring upon the Holders or their transferees the right to vote or to receive dividends or to consent or to receive notice as shareholders in respect of any meeting of shareholders for the election of directors of the Company or any other matter, or any rights whatsoever as shareholders of the Company. If, however, at any time prior to the expiration of the Warrants and prior to their exercise, any of the following events shall occur:

(a) the Company shall declare any dividend payable in any securities upon its shares of Common Stock or make any distribution (other than a regular cash dividend, as such dividend may be increased from time to time, or a dividend payable in shares of Common Stock) to the holders of its shares of Common Stock; or

(b) the Company shall offer to the holders of its shares of Common Stock on a pro rata basis any cash, additional shares of Common Stock or other securities of the Company or any right to subscribe for or purchase any thereof; or

(c) a dissolution, liquidation or winding up of the Company (other than in connection with a consolidation, merger, sale, transfer or lease of all or substantially all of its property, assets, and business as an entirety) shall be proposed,

then in any one or more of said events the Company shall (a) give notice in writing of such event as provided in Section 14 hereof and (b) if the Warrants have been registered pursuant to the Act, cause notice of such event to be published once in The Wall Street Journal (national edition), such giving of notice and publication to be completed at least 10 days prior to the date fixed as a record date or the date of closing the transfer books for the determination of the stockholders entitled to such dividend, distribution, or subscription rights or for the determination of stockholders entitled to vote on such proposed dissolution, liquidation or winding up or the date of expiration of such offer. Such notice shall specify such record date or the date of closing the transfer books or the date of expiration, as the case may be. Failure to publish, mail or receive such notice or any defect therein or in the publication or mailing thereof shall not affect the validity of any action in connection with such dividend, distribution or subscription rights, or such proposed dissolution, liquidation or winding up, or such offer.

SECTION 13. Appointment of Warrant Agent. At such time as the Company shall register Warrants under the Act, the Company shall appoint a Warrant Agent to act on behalf of the Company in connection with the issuance, division, transfer and exercise of Warrants. At such time as the Company appoints a Warrant Agent, the Company shall enter into a new Warrant Agreement with the Warrant Agent pursuant to which all new Warrants will be issued upon registration of transfer or division, which will reflect the appointment of the Warrant Agent, as well as additional customary provisions as shall be reasonably requested by the Warrant Agent in connection with the performance of its duties. In the event that a Warrant Agent is appointed, the Company shall (i) promptly notify the Holders of such appointment and the place designated for transfer, exchange and exercise of the Warrants, and (ii) take such steps as are necessary to insure that Warrants issued prior to such appointment may be exchanged for Warrants countersigned by the Warrant Agent.

SECTION 14. Notices; Principal Office. Any notice pursuant to this Agreement by the Company or by any Holder to the Warrant Agent (if so appointed), or by the Warrant Agent (if so appointed) or by any Holder to the Company, shall be in writing and shall be delivered in person, or mailed first class, postage prepaid (a) to the Company, at its office, Attention: President or (b) to the Warrant Agent, at its offices as designated at the time the Warrant Agent is appointed. The address of the principal office of the Company is 935 Pardee Street, Berkeley, California 94710. Each party hereto may from time to time change the address to which notices to it are to be delivered or mailed hereunder by notice to the other party.

Any notice mailed pursuant to this Agreement by the Company or the Warrant Agent to the Holders shall be in writing and shall be mailed first class, postage prepaid, or otherwise delivered, to such Holders at their respective addresses on the books of the Company or the Warrant Agent, as the case may be.

SECTION 15. Successors. Except as expressly provided herein to the contrary, all the covenants and provisions of this Agreement by or for the benefit of the Company and the Lender shall bind and inure to the benefit of their respective successors and permitted assigns hereunder.

SECTION 16. Merger or Consolidation of the Company. The Company will not merge or consolidate with or into, or sell, transfer or lease all or substantially all of its property to, any other corporation unless the successor or purchasing corporation, as the case may be (if not the Company), shall expressly assume, by supplemental agreement, the due and punctual performance and observance of each and every covenant and condition of this Agreement to be performed and observed by the Company.

SECTION 17. Investment Representations. Lender represents and warrants to BioTime that:

17.1 Lender has received the Company's financial statements for the year ended on December 31, 2001, as will be included in its Form 10-K for such fiscal year, its annual report on Form 10-K for the fiscal year ended December 31, 2000, and quarterly report on Form 10-Q for the fiscal quarter and nine months ended September 30, 2001 (the "Disclosure Documents"). Lender is relying on the information provided in the Disclosure Documents or otherwise communicated to Lender in writing by the Company. Lender has not relied on any statement or representations inconsistent with those contained in the Disclosure Documents. Lender has had a reasonable opportunity to ask questions of and receive answers from the executive officers and directors of the Company, or one or more of its officers, concerning the Company and to obtain additional information, to the extent possessed or obtainable without unreasonable effort or expense, necessary to verify the information in the Disclosure Documents. All such questions have been answered to Lender's satisfaction;

17.2 Lender understands that the Warrant and the Warrant Shares are being offered and sold without registration under the Act or qualification under the California Corporate Securities Law of 1968, or under the laws of other states, in reliance upon the exemptions from such registration and qualification requirements for non-public offerings. Lender acknowledges and understands that the availability of the aforesaid exemptions depends in part upon the accuracy of certain of the representations, declarations and warranties contained herein, which Lender hereby makes with the intent that they may be relied upon by the Company and its officers and directors in determining Lender's suitability to acquire the Warrant. Lender understands and acknowledges that no federal, state or other agency has reviewed or endorsed the offering of the Warrant or the Warrant Shares or made any finding or determination as to the fairness of the offering or completeness of the information in the Disclosure Documents;

17.3 Lender understands that the Warrant and the Warrant Shares may not be offered, sold, or transferred in any manner, and the Warrant may not be exercised, unless subsequently registered under the Act, or unless there is an exemption from such registration available for such offer, sale or transfer;

17.4 Lender has such knowledge and experience in financial and business matters to enable Lender to utilize the information contained in the Disclosure Documents, or otherwise made available to Lender to evaluate the merits and risks of an investment in the Warrant and the Warrant Shares and to make an informed investment decision with respect thereto.

17.5 Lender is acquiring the Warrant solely for Lender's own account and for long-term investment purposes, and not with a view to, or for sale in connection with, any distribution of the Warrant or Warrant Shares; and

17.6 Lender is an "accredited investor," as such term is defined in Regulation D promulgated under the Act.

#### SECTION 18. Registration Rights.

18.1 The Company agrees, at its expense, upon written request from the Lender, to register under the Act, the Warrant and the Warrant Shares and to take such other actions as may be necessary to allow the Warrant and the Warrant Shares to be freely tradable, without restrictions, in compliance with all regulatory requirements. A written request for registration shall specify the quantity of the Warrant Shares intended to be sold, the plan of distribution and the identity of the sellers, which may include the Lender and assignees of its rights hereunder (collectively, "Selling Securities Holders"), and whether the registration shall be pursuant to an underwritten public offering or a "shelf" registration pursuant to Rule 415 (or similar rule that may be adopted by the Securities and Exchange Commission). The Company shall not be obligated to file more than two such registration statements, other than registration statements on Form S-3. The Company shall keep such registration statements effective for a period of at least nine months, except that registration statements on Form S-3 shall be kept effective for at least three years (or such lesser period as the parties may agree, but in no event beyond the completion of the distribution or distributions being made pursuant thereto). The Company shall utilize Form S-3 if it qualifies for such use. The Company shall make all filings required with respect to the registration statements and will use its best efforts to cause such filings to become effective, so that the Warrant and Warrant Shares being registered shall be registered or qualified for sale under the securities or blue sky laws of such jurisdictions as shall be reasonably appropriate for distribution of the Warrant and Warrant Shares covered by the registration statement. The Company will furnish to the Selling Securities Holders such numbers of copies of a prospectus, including a preliminary prospectus, in conformity with the requirements of the Act and such other related documents as the Selling Securities Holders may reasonably request in order to effect the sale of the Warrant and Warrant Shares. To effect any offering pursuant to a registration statement under this Section, the Company shall enter into an agreement containing customary representations and warranties, and indemnification and contribution provisions, all for the benefit of Selling Securities Holders, and, in the case of an Underwritten public offering, an underwriting agreement with an investment banking firm selected by the Lender and reasonably acceptable to the Company, containing such customary representations and warranties, and indemnification and contribution provisions

18.2 If, at any time, the Company proposes to register any of its securities under the Act (otherwise than pursuant to Section 18.1 above or on a Form S-8 if such form cannot be used for registration of the Warrant or Warrant Shares pursuant to its terms), the Company shall, as promptly as practicable, give written notice to the Lender. The Company shall include in such registration statement the Warrant and any Warrant Shares proposed to be sold by the Selling Securities Holders. Notwithstanding the foregoing, if the offering of the Company's securities is to be made through underwriters, the Company shall not be required to include the Warrant and Warrant Shares if and to the extent that the managing underwriter reasonably believes in good faith that such inclusion would materially adversely affect such



offering unless the Selling Securities Holders agree to postpone their sales until 10 days after the distribution is completed.

18.3 The Company shall pay the cost of the registration statements filed pursuant to this Agreement, including without limitation all registration and filing fees, fees and expenses of compliance with securities or blue sky laws (including counsel's fees and expenses in connection therewith), printing expenses, messenger and delivery expenses, internal expenses of the Company, listing fees and expenses, and fees and expenses of the Company's counsel, independent accountants and other persons retained or employed by the Company. Selling Securities Holders shall pay any underwriters discounts applicable to the Warrant and Warrant Shares.

SECTION 19. Legends. The Warrants and Warrant Shares issued pursuant to this Agreement shall bear an appropriate legend, conspicuously disclosing the restrictions on exercise and transfer under Section 2.2 of this Agreement until the same are registered for sale under the Act. The Company agrees that upon the sale of the Warrant and Warrant Shares pursuant to a registration statement or an exemption, upon the presentation of the certificates containing such a legend to its transfer agent, it will remove such legend. The Company further agrees to remove the legend at such time as registration under the Act shall no longer be required.

SECTION 20. Applicable Law. This Agreement and each Warrant issued hereunder shall be governed by and construed in accordance with the laws of the State of California, without giving effect to principles of conflict of laws.

SECTION 21. Benefits of this Agreement. Nothing in this Agreement shall be construed to give to any person or corporation other than the Company, the Warrant Agent (if appointed) and the Holders any legal or equitable right, remedy or claim under this Agreement; but this Agreement shall be for the sole and exclusive benefit of the Company, the Warrant Agent and the Holders of the Warrants.

SECTION 22. Counterparts. This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument.

SECTION 23. Captions. The captions of the Sections and subsections of this Agreement have been inserted for convenience only and shall have no substantive effect.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed, all as of the day and year first above written.

BIOTIME, INC.

By: \_\_\_\_\_  
Name: Paul Segall, Ph.D  
Title: Chairman and Chief  
Executive Officer

Attest:

By: \_\_\_\_\_  
Name: Judith Segall  
Title: Secretary

\_\_\_\_\_  
Alfred D. Kingsley

EXHIBIT A

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR UNDER APPLICABLE STATE SECURITIES LAWS. THIS WARRANT MAY NOT BE EXERCISED, SOLD, PLEDGED, HYPOTHECATED, TRANSFERRED OR ASSIGNED EXCEPT UNDER AN EFFECTIVE REGISTRATION STATEMENT UNDER SUCH ACT AND APPLICABLE STATE SECURITIES LAWS, UNLESS AN EXEMPTION FROM SUCH REGISTRATION IS AVAILABLE.

VOID AFTER 5:00 P.M. NEW YORK TIME, March 26, 2007

Certificate No. \_\_\_\_\_

Warrant to Purchase  
[Insert number of Shares]  
Shares of Common Stock

BIOTIME, INC.  
COMMON SHARE PURCHASE WARRANTS

This certifies that, for value received, [Insert name of Holder] or registered assigns (the "Holder"), is entitled to purchase from BioTime, Inc. a California corporation (the "Company"), at a purchase price per share [Insert Warrant Price determined pursuant to Sections 9 and 10 of the Warrant Agreement] (the "Warrant Price"), the number of its Common Shares, no par value per share (the "Common Stock"), shown above. The number of shares purchasable upon exercise of the Common Share Purchase Warrants (the "Warrants") and the Warrant Price are subject to adjustment from time to time as set forth in the Warrant Agreement referred to below. Outstanding Warrants not exercised prior to 5:00 p.m., New York time, on March 26, 2007 shall thereafter be void.

Subject to restriction specified in the Warrant Agreement, Warrants may be exercised in whole or in part by presentation of this Warrant Certificate with the Purchase Form on the reverse side hereof duly executed, which signature shall be guaranteed by a bank or trust company or a broker or dealer which is a member of the National Association of Securities Dealers, Inc., and simultaneous payment of the Warrant Price (or as otherwise set forth in Section 10.5) of the Warrant Agreement at the principal office of the Company (or if a Warrant Agent is appointed, at the principal office of the Warrant Agent). Payment of such price shall be made in cash or by certified or bank cashier's check. As provided in the Warrant Agreement, the Warrant Price and the number or kind of shares which may be purchased upon the exercise of the Warrant evidenced by this Warrant Certificate are, upon the happening of certain events, subject to modification and adjustment.

This Warrant Certificate is issued under and in accordance with a Warrant Agreement dated as of March 27, 2002 between the Company and Alfred D. Kingsley and is subject to the terms and provisions contained in the Warrant Agreement, to all of which the Holder of this Warrant Certificate by acceptance of this Warrant Certificate consents. A copy of the Warrant Agreement may be obtained by the Holder hereof upon written request to the Company. In the event that pursuant to Section 13 of the Warrant Agreement a Warrant Agent is appointed and a new warrant agreement entered into between the Company and such Warrant Agent, then such new warrant agreement shall constitute the Warrant Agreement for purposes hereof and this Warrant Certificate shall be deemed to have been issued pursuant to such new warrant agreement.

Upon any partial exercise of the Warrant evidenced by this Warrant Certificate, there shall be issued to the Holder hereof a new Warrant Certificate in respect of the shares of Common Stock as to which the Warrant evidenced by this Warrant Certificate shall not have been exercised. This Warrant Certificate may be exchanged at the office of the Company (or the Warrant Agent, if appointed) by surrender of this Warrant Certificate properly endorsed either separately or in combination with one or more other Warrant Certificates for one or more new Warrant Certificates evidencing the right of the Holder thereof to purchase the aggregate number of shares as were purchasable on exercise of the Warrants evidenced by the Warrant Certificate or Certificates exchanged. No fractional shares will be issued upon the exercise of any Warrant, but the Company will pay the cash value thereof determined as provided in the Warrant Agreement. This Warrant Certificate is transferable at the office of the Company (or the Warrant Agent, if appointed) in the manner and subject to the limitations set forth in the Warrant Agreement.

The Holder hereof may be treated by the Company, the Warrant Agent (if appointed) and all other persons dealing with this Warrant Certificate as the absolute owner hereof for any purpose and as the person entitled to exercise the rights represented hereby, or to the transfer hereof on the books of the Company, any notice to the contrary notwithstanding, and until such transfer on such books, the Company (and the Warrant Agent, if appointed) may treat the Holder hereof as the owner for all purposes.

Neither the Warrant nor this Warrant Certificate entitles any Holder to any of the rights of a stockholder of the Company.

[This Warrant Certificate shall not be valid or obligatory for any purpose until it shall have been countersigned by the Warrant Agent.]\*

DATED:

BIOTIME, INC.

(Seal)

By: \_\_\_\_\_

Title:

Attest: \_\_\_\_\_

[COUNTERSIGNED:

WARRANT AGENT

By: \_\_\_\_\_]\*  
Authorized Signature

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\* To be part of the Warrant only after the appointment of a Warrant Agent pursuant to Section 13 of the Warrant Agreement.

PURCHASE FORM

(To be executed upon exercise of Warrant)

To BioTime, Inc.:

The undersigned hereby irrevocably elects to exercise the right of purchase represented by the within Warrant Certificate for, and to purchase thereunder, \_\_\_\_\_ shares of Common Stock, as provided for therein, and tenders herewith payment of the purchase price in full in the form of cash or a certified or bank cashier's check in the amount of \$\_\_\_\_\_.

Please issue a certificate or certificates for such shares of Common Stock in the name of, and pay any cash for any fractional share to:

PLEASE INSERT SOCIAL SECURITY  
OR OTHER IDENTIFYING NUMBER  
OF ASSIGNEE

NAME  
(Please Print Name &  
Address)

\_\_\_\_\_  
\_\_\_\_\_

Address

Signature

NOTE: The above signature should correspond exactly with the name on the face of this Warrant Certificate or with the name of the assignee appearing in the assignment form below.

And, if said number of shares shall not be all the shares purchasable under the within Warrant Certificate, a new Warrant Certificate is to be issued in the name of said undersigned for the balance remaining of the share purchasable thereunder less any fraction of a share paid in cash.

ASSIGNMENT

(To be executed only upon assignment of Warrant Certificate)

For value received, \_\_\_\_\_ hereby sells, assigns and transfers unto \_\_\_\_\_ the within Warrant Certificate, together with all right, title and interest therein, and does hereby irrevocably constitute and appoint \_\_\_\_\_ attorney, to transfer said Warrant Certificate on the books of the within-named Company, with full power of substitution in the premises.

Dated: \_\_\_\_\_

\_\_\_\_\_  
NOTE: The above signature should correspond exactly with the name on the face of this Warrant Certificate.

INDEPENDENT AUDITORS' CONSENT

We consent to the incorporation by reference in Registration Statements Nos. 33-56766, 33-88968 and 333-30603 of BioTime, Inc. on Form S-8 of our report dated February 16, 2002 (March 27, 2002 as to Note 9 and the fourth paragraph of Note 1), (which expresses an unqualified opinion and includes an explanatory paragraph related to the development stage of the Company's operations), appearing in the Annual Report on Form 10-K of BioTime, Inc. for the year ended December 31, 2001.

March 27, 2002  
San Francisco, California