As filed with the Securities and Exchange Commission on August 5, 1999 Registration No. 33-91802

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 7
TO
FORM SB-2
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

CYTOCLONAL PHARMACEUTICS INC.
(Name of Small Business Issuer in its Charter)

DELAWARE	2834	75-2402409
(State or other jurisdiction of incorporation or organization)	(Primary standard industrial classification code number)	(I.R.S. employer identification number)

9000 HARRY HINES BOULEVARD
SUITE 621
DALLAS, TEXAS 75235
(214) 353-2922
(Address and Telephone Number of Principal Executive Offices)

9000 HARRY HINES BOULEVARD
SUITE 621
DALLAS, TEXAS 75235
(Address of Principal Place of Business or
Intended Principal Place of Business)

ARTHUR P. BOLLON, PH.D.
CHAIRMAN AND CHIEF EXECUTIVE OFFICER
CYTOCLONAL PHARMACEUTICS INC.
9000 HARRY HINES BOULEVARD
SUITE 621
DALLAS, TEXAS 75235
(214) 353-2922
(Name, Address and Telephone Number of Agent for Service)

Copies to:

ROBERT H. COHEN, ESQ.
PHILIP MAGRI, ESQ.
MORRISON COHEN SINGER & WEINSTEIN, LLP
750 LEXINGTON AVENUE
NEW YORK, NEW YORK 10022
(212) 735-8600

APPROXIMATE DATE OF PROPOSED SALE TO THE PUBLIC: As soon as practicable after this Registration Statement becomes effective.

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [ ]

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement

for the same offering. [ ]

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [ ]

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. [ ]

PURSUANT TO RULE 416 UNDER THE SECURITIES ACT OF 1933, AS AMENDED, THERE ARE ALSO BEING REGISTERED SUCH ADDITIONAL SHARES OF COMMON STOCK AS MAY BECOME ISSUABLE PURSUANT TO ANTI-DILUTION PROVISIONS OF THE CLASS C WARRANTS AND THE CLASS D WARRANTS.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(A) OF THE SECURITIES ACT OF 1933, AS AMENDED, OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), MAY DETERMINE.

EXPLANATORY NOTE

This registration statement contains two forms of prospectus relating to our initial public offering of units in November 1995:

(i) one for use by us in connection with our offering of:

(a) shares of common stock and class D warrants that an investor receives when he exercises his class C warrants for $6.50 per share, subject to adjustment; and

(b) shares of common stock that an investor receives when he exercises his class D warrants for $8.75 per share, subject to adjustment

(ii) the other for use by the underwriter of our initial public offering, Janssen-Meyers Associates, L.P., in market-making transactions.

The prospectus and the market-making prospectus are identical except for the following:

(i) the outside front cover page;

(ii) page 61, which will contain different language for the "Plan of Distribution" section; and

(iii) the outside back cover page.

Different language for the market-making prospectus is labeled "Alternate Language for Market-Making Prospectus."

Information contained herein is subject to completion or amendment. A registration statement relating to these securities has been filed with the Securities and Exchange Commission. These securities may not be sold nor may offers to buy be accepted prior to the time the registration statement becomes effective. This prospectus shall not constitute an offer to sell or the

solicitation of an offer to buy nor shall there be any sale of these securities in any State in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such State.

SUBJECT TO COMPLETION, DATED AUGUST 5, 1999

CYTOCLONAL PHARMACEUTICS INC.

6,523,073 SHARES OF COMMON STOCK
2,006,073 CLASS D WARRANTS

Our initial public offering in November 1995 was a unit offering. Each unit consisted of common stock, par value $.01 per share, class C warrants and class D warrants. This prospectus relates to the shares of common stock and class D warrants underlying the class C warrants and the shares of common stock underlying the class D warrants.

Three classes of our securities are currently quoted on the Nasdaq SmallCap Market System. Our common stock is quoted under the symbol, "CYPH." Our class C warrants are quoted under the symbol, "CYPHW." Our class D warrants are quoted under the symbol, "CYPHZ." There can be no assurance that an active trading market in the securities will be sustained.

SEE "RISK FACTORS" BEGINNING ON PAGE 6 OF THIS PROSPECTUS AND "DILUTION."

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS.
ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this Prospectus is August ___, 1999.

TABLE OF CONTENTS

Page

Prospectus Summary....3
Risk Factors....6
Market for Common Equity and Related Stockholder Matters....15
Dividend Policy....16
Dilution....16
Use of Proceeds....17
Capitalization....18
Selected Financial Data....19
Management's Discussion and Analysis of Financial Condition and Results of Operations....20
Business....22
Management....39
Security Ownership of Certain Beneficial Owners and Management....47
Certain Relationships and Related Transactions....49
Description of Securities....49
Shares Eligible for Future Sale....54
Plan of Distribution....55
Legal Matters....56
Experts....56
Additional Information....56
Index to Financial Statements....F-1

5

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary is not complete and may not contain all of the information that you should consider before investing in the securities. You should read the entire prospectus carefully. Unless we otherwise say so, when we discuss our outstanding securities, we exclude all of our shares of common stock issuable upon the exercise of currently outstanding warrants and options and the conversion of our convertible securities.

We are a biopharmaceutical company located in Dallas, Texas. Our goal is to develop products to identify, treat and prevent cancer and other diseases. To date, our strategy has been to license technologies in their early development stages from research and educational institutions and further develop such technologies to the point where we can then sublicense them to commercial entities. Through our research and development efforts and agreements with other research institutions and biotechnology companies, we have acquired and developed rights to certain proprietary technology.

At the present time, we are focusing our attention and resources on a collaboration agreement we have with Bristol-Myers Squibb Company, Inc. for the production of Paclitaxel. Paclitaxel is a drug which has proven to be effective in treating refractory ovarian, breast and non-small cell lung cancer and Kaposi's Sarcoma. In addition, Paclitaxel has shown potential in treating other cancer indications in preliminary clinical trials. Presently, however, Paclitaxel is made from the inner bark and needles of the slow-growing Pacific yew tree. Our scientists are working in cooperation with Bristol-Myers Squibb to develop a system for manufacturing Paclitaxel in commercial quantities and at lower costs. Other areas of focus include the development of the Paclitaxel treatment of polycystic kidney disease, a drug design program using Quantum Core TechnologyTM, a peptide to suppress breast cancer, and our Human Gene Discovery Program. Other programs, which involve potential anti-leukemia drugs and drugs called "anti-sense therapeutics," are being pursued at modest levels. "Anti-sense therapeutics" are drugs designed to essentially "turn off" genes involved in different diseases and to prevent such genes from growing or duplicating. Such therapeutics may help us develop future products or alternatives to our main programs if unforeseen problems develop.

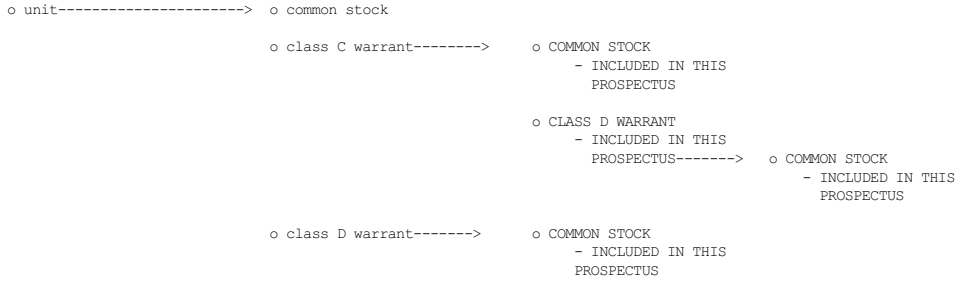
ORGANIZATIONAL HISTORY

We were originally incorporated in the state of Texas in September 1991 under the name of Bio Pharmaceutics, Inc. In November 1991, we changed our name to Cytoclonal Pharmaceutics Inc. We were then reincorporated in the state of Delaware by merger into a wholly-owned Delaware subsidiary in January 1992. Our executive offices are located at 9000 Harry Hines Boulevard, Suite 621, Dallas, Texas 75235 and our telephone number is (214) 353-2922.

6

THE OFFERING

We are using this prospectus to offer common stock and class D warrants underlying units we sold in our initial public offering in November 1995. Each unit consisted of one share of our common stock, one class C warrant and one class D warrant. Each class C warrant is exercisable until November 2, 2000 for one share of common stock and one class D warrant for $6.50, subject to adjustment in certain circumstances. Each class D warrant is exercisable until November 2, 2000 for one share of common stock for $8.75, subject to adjustment in certain circumstances. Of the 6,523,073 shares of common stock included in this prospectus, 2,006,073 are issuable upon the exercise of class C warrants, 2,006,073 are issuable upon the exercise of class D warrants underlying such class C warrants and 2,510,927 are issuable upon the exercise of the class D warrants included in the units. All of the 2,006,073 class D warrants included in this prospectus are issuable upon the exercise of the class C warrants included in the unit.



We have the right to redeem the class C warrants and class D warrants on at least 30 days' prior written notice, at a price of $.05 per warrant, if the average closing bid price of our common stock as reported on the Nasdaq SmallCap Market System for any 30 consecutive business day period ending within 15 business days of the date on which we give notice of redemption, exceeds $9.10 for the class C warrants and $12.25 for the class D warrants.

SECURITIES:

Before this offering as of July 6, 1999:

COMMON STOCK outstanding, excluding 10,884,742 shares of common stock which are issuable upon the exercise of existing warrants and options	10,343,412
CLASS C WARRANTS outstanding	2,006,073
CLASS D WARRANTS outstanding, excluding 2,006,073 class D warrants issuable upon the exercise of 2,006,073 class C warrants	2,510,927

Upon the completion of this offering:

COMMON STOCK outstanding, assuming all of the class C warrants and class D warrants are exercised, including 2,006,073 class D warrants issuable upon the exercise of the 2,006,073 class C warrants	16,866,485

RISK FACTORS:	See page 6
USE OF PROCEEDS:	We will receive the proceeds when the class C warrants and class D warrants are exercised. We intend to utilize the net proceeds from the exercise of the class C warrants and class D warrants to fund our research and development activities, including paying royalties and licensing fees, and for general working capital purposes and operating expenses. See "Use of Proceeds."
DIVIDEND POLICY:	We currently intend to retain all future earnings to fund the development and growth of our business. We do not anticipate paying cash dividends. See "Dividend Policy."
NASDAQ SMALLCAP MARKET SYMBOLS:	Common stock - CYPH Class C warrants - CYPHW Class D warrants - CYPHZ

RISK FACTORS

You should carefully consider the following factors and other information

in this prospectus before deciding to invest in the securities we are offering in this prospectus.

INVESTORS WILL EXPERIENCE A LOSS IN THE BOOK VALUE OF THEIR COMMON STOCK DUE TO OUR ACCUMULATED DEFICIT.

We had an accumulated deficit of $18,917,000 as of the quarter ended March 31, 1999 (unaudited) and $17,832,000 as of the fiscal year ended December 31, 1998. Our statement of operations for the fiscal year ended December 31, 1997 shows net losses of $3,252,000, which means a loss of $.42 per share of common stock. Our statement of operations for the fiscal year ended December 31, 1998 shows net losses of $2,728,000, which means a loss of $.30 per share of common stock. Investors purchasing shares of our common stock will experience a loss in the book value of their shares due to our net losses.

BECAUSE WE CONTINUE TO EXPERIENCE LOSSES DUE TO OUR RESEARCH AND DEVELOPMENT ACTIVITIES, WE MAY HAVE DIFFICULTY IN RAISING CAPITAL AND OUR STOCKHOLDERS COULD EXPERIENCE A DECREASE IN THE VALUE OF THEIR INVESTMENT.

From our formation in 1991 to the date of this prospectus, we have been experiencing substantial operating losses due to our increasing research and development activities and general and administrative expenditures. We expect to have additional losses in the future. Although we had revenue in 1998 from our license agreement with Bristol-Myers Squibb, it was and remains our sole source of revenue. We cannot say with any certainty that we will have any future revenue or, if we do have revenue, that it will be profitable. Our failure to become profitable may make it more difficult for us to raise additional capital on favorable terms, if at all. Such failure could have a materially adverse effect on our business.

WE WILL NEED SUBSTANTIAL FUNDS IN THE FUTURE, AND WE MAY HAVE TO ISSUE ADDITIONAL SECURITIES TO DO SO, WHICH WILL RESULT IN DILUTION TO THE VALUE OF OUR SECURITYHOLDERS' INVESTMENT.

Since our formation in 1991, we have relied on loans, private financings, and our November 1995 initial public offering to allow us to continue our operations. Our cash requirements in the future may be significantly different from our current estimates because of changes in our research and development programs, increased competition, advances in technology and other factors. We cannot say with any certainty that required financing will be available to us on favorable terms, if at all. If we decide to raise additional money by issuing more of our securities, securityholders will experience a dilution to the value of their securities at the time of issuance.

WE DO NOT HAVE ANY PRODUCTS TO DATE AND RELY HEAVILY ON OUR LICENSE AGREEMENTS-THE LOSS OF ANY OF WHICH WOULD HAVE A MATERIAL ADVERSE EFFECT ON OUR BUSINESS AND CAUSE A DECREASE IN THE VALUE OF OUR SECURITYHOLDERS' INVESTMENT.

We have key license and collaborative agreements with several pharmaceutical companies and research institutions, including, but not limited to, Bristol-Myers Squibb, Enzon, the Research & Development Institute at Montana State University, the Washington State University Research Foundation, the University of California at Los Angeles, and the University of Texas at Dallas. We have also entered into a joint venture agreement with Pestka Biomedical Laboratories, Inc. In general, we have annual milestone and royalty fee obligations under these agreements. Although we are currently compliant under these agreements and do not foresee any future noncompliance, our industry is extremely competitive and volatile. Generally, if we fail to satisfy such obligations or cure any other default listed in such agreements, the other parties may terminate them. Also, we cannot give any assurance that the other parties to our agreements will honor their obligations, or that we will be able to extend any of the agreements if they expire. We also cannot give any assurance that we will be able to enter into new collaborative agreements with existing or new partners. If we are unable to make the other parties to our agreements honor their contractual obligations or to extend our current agreements or if we fail to enter into any additional

arrangements, we may require additional money to continue our current activities. The termination or breach of our agreements or licenses, or our failure to enter into additional agreements and licenses may have a material

adverse effect on our business. See "Management's Discussion and Analysis of Financial Conditions and Results of Operations-Business-Collaborative Agreements."

ALTHOUGH WE DO NOT HAVE ANY PRODUCTS TO DATE, EVEN IF WE DO HAVE THEM IN THE FUTURE, THEY MIGHT NOT WORK OR THEY MIGHT BE TOXIC, DIFFICULT TO PRODUCE ON A COMMERCIAL SCALE OR DISLIKED BY OUR CUSTOMERS. THIS COULD MATERIALLY ADVERSELY AFFECT OUR BUSINESS AND CAUSE OUR SECURITYHOLDERS TO LOSE THEIR INVESTMENT.

Research and development of anti-cancer drugs is a lengthy and costly process. We cannot say with any certainty that we will be able to develop or produce any products or, if we do, that they will work as intended, be non-toxic, that customers will like them or that they will be capable of being manufactured on a large scale. Furthermore, our products will be in the biotechnology field which has historically had a large number of unsuccessfully developed products, or if developed, such products have been commercially, scientifically or medically unacceptable. Any of these impediments could have a material adverse effect on our business and cause a decrease in the value of our securityholders' investment.

WE MIGHT NOT HAVE ENOUGH RESOURCES TO COMPETE WITH THE BIOTECHNOLOGY LEADERS, AND INVESTORS COULD LOSE THEIR MONEY.

We have less than 20 employees in the heavily regulated, competitive and quickly changing biotechnology industry. Most of our competitors have more personnel, research and development experience, experience in getting governmental approval and money than us. Our business may be materially adversely affected if our competitors develop products before us or produce superior products to ours.

IF COMPETITORS ARE SUCCESSFUL IN THEIR CHALLENGE OF BRISTOL-MYERS SQUIBB'S PATENT, WE COULD BE INDIRECTLY HURT UNDER OUR LICENSE AGREEMENT WITH BRISTOL-MYERS SQUIBB, AND OUR SECURITYHOLDERS COULD EXPERIENCE A DECREASE IN THE VALUE OF THEIR INVESTMENT.

In June 1998, we entered into license agreement with Bristol-Myers Squibb, an industry leader, for the development of Paclitaxel production system. To date, this license agreement has been our sole source of revenue. In June 1991, the National Cancer Institute entered into a collaborative research and development agreement with Bristol-Myers Squibb to develop Paclitaxel, and it granted Bristol-Myers Squibb the exclusive use of the Institute's clinical data in Bristol-Myers' search for FDA approval until December 1997. This significantly shortened the approval process and prevented any other party from obtaining the Food & Drug Administration's approval using the Institute's data. Although Bristol-Myers Squibb has since lost its right of exclusivity under the agreement, it has patented its method of delivering Paclitaxel intravenously to a patient. Such patent has in fact kept the Institute's data exclusive and has put other companies at a competitive disadvantage by effectively preventing them from using the data. Other companies are currently contesting the exclusivity of this data in the courts. If such competitors are successful in their challenge, Bristol-Myers Squibb could suffer which in turn would decrease the value of our license agreement with them and our securityholders could experience a decrease in the value of their investment. See "Management's Discussion and Analysis of Financial Conditions and Results of Operations-Business-Collaborative Agreements-Bristol-Myers Squibb."

WE RELY ON BROAD PATENT PROTECTION FOR OUR TECHNOLOGY BUT WE MAY NOT HAVE ENOUGH RESOURCES TO CONDUCT OR DEFEND OURSELVES FROM LONG AND EXPENSIVE LITIGATION CLAIMS REGARDING THE BREADTH OF PATENTS, AND OUR SECURITYHOLDERS COULD EXPERIENCE A DECREASE IN THE VALUE OF THEIR INVESTMENT.

Our success will depend on our ability to get patent protection for our products and processes in the United States and elsewhere. We have filed and intend to continue to file patent applications as we need them. We cannot say with any

certainty, however, that any additional patents will issue from any of these applications or, if patents do issue, that the claims allowed will be sufficiently broad to protect our technology. Also, we cannot say with any certainty that any patents issued to us or licensed by us can withstand

challenges made by others or that we will able to protect our rights. Our business may be materially adversely affected if we are unable to obtain or enforce patent protection.

To date, we have not been sued or threatened by parties claiming that we have infringed their patents. Further, we do not believe that any of our patents have been infringed by other parties, and, accordingly, we have not taken any action to date. However, we are aware of patent applications and issued patents belonging to our competitors, and we are uncertain whether any of these, or of any patent applications which we do not know about, will require us to alter or cease our potential products or processes. We cannot say with any certainty that we will be able to obtain any licenses to technology that we will require or, if obtainable, that the cost of them will be reasonable. Our failure to obtain any necessary licenses to any technology could substantially hurt our business. Expensive and drawn-out litigation may also be necessary for us to assert any of our rights or to determine the scope and validity of rights claimed by other parties. Litigation could be too expensive for us to pursue without great cost and uncertainty as to the outcome. Our failure to pursue litigation could result in the loss of our rights which could substantially hurt our business.

WE ARE IN DIRECT COMPETITION WITH OTHER BIOPHARMACEUTICAL COMPANIES TO DEVELOP AND PRODUCE ANTI-CANCER PRODUCTS. OUR BUSINESS WOULD BE MATERIALLY ADVERSELY AFFECTED IF OUR TRADE SECRETS AND CONFIDENTIAL INFORMATION WERE DISCLOSED TO OUR COMPETITORS, AND INVESTORS COULD EXPERIENCE A DECREASE IN THE VALUE OF THEIR INVESTMENTS.

We also rely on trade secrets and confidential information which we try to protect by entering into confidentiality agreements with other parties. We cannot say with any certainty that any of the confidentiality agreements will be honored or, if breached, we would have enough remedies to protect the confidential information, or that our competitors will not independently learn our trade secrets. The loss of our trade secrets would substantially hurt our business.

WE ARE A SMALL COMPANY WITH LITTLE REVENUE, AND WE MAY NOT HAVE THE HUMAN AND FINANCIAL RESOURCES TO WITHSTAND THE REQUIRED LENGTHY FDA TESTING AND APPROVAL PROCESSES.

The Food & Drug Administration and other similar agencies in foreign countries have lengthy and detailed laboratory testing and approval requirements for therapeutic and diagnostic pharmaceutical and biological products. It often takes companies several years and large sums of money to satisfy these requirements, depending on the complexity and novelty of the products. Since we are a small company within limited personnel and financial resources, we might not be able to withstand the rigorous and time consuming FDA approval process as compared to our larger competitors. Furthermore, since we are in the highly competitive biopharmaceutical industry, any failure or delay in obtaining any FDA approvals could substantially hurt our company, and investors could lose their money. We cannot say with any certainty that the FDA or other regulatory agencies will grant us approval for any of our products on a timely basis, if at all.

WE HAVE LITTLE REVENUE AND MAY NOT HAVE THE FINANCIAL RESOURCES TO COMPLY WITH OSHA, EPA AND OTHER AGENCIES' REQUIREMENTS.

We have to comply with the Occupational Safety and Health Administration, Environmental Protection Agency, Toxic Substances Control Act, Resource Conservation and Recovery Act and other regulatory laws. In the future, we could also be subject to other federal, state or local regulations. OSHA or the EPA may establish regulations which could affect our research and development programs. We are unable to predict whether any agency will adopt any rule which could substantially hurt our business.

OUR PRODUCTS, IF ANY, WILL BE INNOVATIVE AND MAY NOT BE COVERED BY INSURANCE COMPANIES OR OTHER THIRD-PARTY PAYERS WHICH MAY MAKE OUR PRODUCTS LESS MARKETABLE TO OUR CUSTOMERS AND CAUSE A DECREASE IN THE VALUE OF OUR SECURITYHOLDERS' INVESTMENT.

Our success in developing our products may depend, in part, on whether we will be reimbursed by government health administration authorities, private health insurers and other organizations. There is significant uncertainty if costs associated with newly-approved health care products will be reimbursed. If adequate coverage and reimbursement levels are not provided by government and third-party payers for uses of our products, it will make it very difficult for us to market our products to doctors and hospitals because their patients might not be able to pay for the products without any insurance coverage or reimbursement. We cannot say with any certainty whether sufficient insurance coverage will be available for us to establish and maintain price levels sufficient to realize an appropriate return on developing new products. Government and other third-party payers are attempting to contain health care costs more every day by limiting both coverage and the level of reimbursement of new therapeutic and diagnostic products approved for marketing by FDA and by refusing, in some cases, to provide any coverage of uses of approved products for disease indications for which FDA has not granted marketing approval. Such refusal by insurance companies and third-party payers to reimburse the costs of, expenses associated with, our products might have a material adverse effect on our business.

OUR LICENSE AGREEMENT WITH BRISTOL-MYERS SQUIBB, AN INDUSTRY LEADER, HAS, TO DATE, BEEN OUR SOLE SOURCE OF REVENUE. OUR SECURITYHOLDERS COULD EXPERIENCE A DECREASE IN THE VALUE OF THEIR INVESTMENTS IF SUCH AGREEMENT IS TERMINATED OR CEASES TO GENERATE REVENUE.

In June 1998, we entered into a license agreement and a research and development agreement with Bristol- Myers Squibb. As of March 31, 1999, we received $1,416,000 in revenue from the license agreement. Such agreement has been our sole source of revenues to date. Under the license agreement, we granted to Bristol-Myers Squibb exclusive sublicenses under our agreements with the Research & Development Institute at Montana State University and the Washington State University Research Foundation relating to technologies for the production of Paclitaxel. Our license agreement with Bristol-Myers Squibb requires them to pay us royalty and milestone payments. The term of our license agreement with Bristol-Myers Squibb ends on the later ten (10) years from the first commercial sale of the licensed products or such time as neither the making, use nor sale at the time by Bristol- Myers Squibb, its affiliates or sublicensees does not infringe any U.S. or foreign patents or patent applications, copyrights or trademarks owned and licensed by the Research & Development Institute and the Washington State University Research Foundation. Bristol-Myers Squibb may terminate the license agreement upon 90 days notice. We cannot say with any certainty that Bristol-Myers Squibb will successfully manufacture or market the licensed property, if at all, or that we will be able to maintain our agreements with the Research & Development Institute or the Washington State University Research Foundation. Although we do not have any reason to believe Bristol- Myers Squibb is unwilling to work with us under our license agreement with them, it is a possibility that Bristol- Myers Squibb might, in the future, decide not to utilize our technology, use other technology they find superior or enter into a license agreement or agreements with another party or parties, thereby decreasing their need to utilize our technology under our license agreement with them or even cause them to terminate the license agreement. Our loss of the license agreement with Bristol-Myers Squibb could have a material adverse effect on our business and stockholders could experience a decrease in the value of their investments.

WE LACK MANUFACTURING EXPERIENCE AND FACILITIES, AND IF WE HAVE TO EXPEND RESOURCES TO BUILD FACILITIES OR IF WE FAIL TO HIRE COMPETENT OUTSIDE MANUFACTURERS, OUR SECURITYHOLDERS COULD EXPERIENCE A DECREASE IN THE VALUE OF THEIR INVESTMENT.

We currently do not have facilities or personnel capable of manufacturing any products in commercial quantities. In the future, we may establish our own manufacturing facilities to manufacture products if it becomes economically attractive to do so. Building and operating production facilities would require substantial additional funds and other resources and well as interrupt our daily operations. We cannot be sure, however, whether sufficient funds to build satisfactory manufacturing facilities would be available on favorable terms to us, if at all. If we cannot obtain sufficient financing, we will most likely have to retain outside manufacturers. We cannot be sure, however, whether we will be able to retain competent manufacturers at affordable rates, or that the manufacturers will be able to produce and deliver our products pursuant to our instructions concerning quality, quantity and time as well as other factors. If we are unable to manufacture our products, if any, or have them manufactured by

our business would be materially adversely affected and our securityholders would experience a decrease in the value of their investment.

WE LACK MARKETING EXPERIENCE. IF WE FAIL TO RETAIN COMPETENT MARKETING PERSONNEL OR OUTSIDE MARKETERS, OR IF WE HAVE INSUFFICIENT RESOURCES TO MARKET OUR PRODUCTS, OUR SECURITYHOLDERS COULD EXPERIENCE A DECREASE IN THE VALUE OF THEIR INVESTMENTS.

As of July 6, 1999, we currently have 19 employees, none of whom have any experience in marketing pharmaceutical products. We would have to spend significant funds and dedicate a significant amount of management resources to develop our own sales force. We cannot say with any certainty that any funds or resources for such purposes will be available on favorable terms, if at all. Further, we cannot say with any certainty that, with a sales force, we would successfully penetrate the markets for any of our products. For certain products under development, we may seek to enter into marketing agreements with other entities which would grant them exclusive marketing rights in return for royalties based on sales, if any. Under some of these agreements, the other entity may have the responsibility for all or a significant part of the development and obtaining regulatory approval. In the event that the marketing and development partner fails to develop a marketable product or fails to successfully market a product, our business could be substantially hurt. The sale of certain products outside the United States will also be dependent upon the successful completion of arrangements with future partners, licensees or distributors in each territory. We cannot give any assurance, however, that we will successfully establish any additional collaborative arrangements or that, if established, such future partners will successfully commercialize any products, if at all.

WE ARE A SMALL COMPANY AND HEAVILY DEPEND UPON OUR OFFICERS, DIRECTORS AND SCIENTISTS WHO ARE HIGHLY SKILLED IN BIOPHARMACOLOGY, ESPECIALLY OUR CHIEF EXECUTIVE OFFICER AND PRESIDENT, ARTHUR P. BOLLON, PH.D. OUR BUSINESS WOULD BE MATERIALLY ADVERSELY AFFECTED BY THE LOSS OF ANY SUCH PERSONS, AND SECURITYHOLDERS COULD EXPERIENCE A
DECREASE IN THE VALUE OF THEIR INVESTMENT.

Much of our success depends upon the continued contributions of our executive officers, scientific and technical personnel and consultants. We are particularly dependent upon Arthur P. Bollon, Ph.D., the Chairman of our Board of Directors, Chief Executive Officer and President, and Daniel Shusterman, the Vice President of Operations, Treasurer and Chief Financial Officer, Dorit Arad, Ph.D., our Vice President of Drug Design, as well as our senior scientists, Susan L. Berent, Ph.D., Hakim Labidi, Ph.D., Rajinder S. Sidhu, Ph.D. and Richard M. Torczynski, Ph.D. As of July 6, 1999, we had 19 full-time employees, 15 of whom are engaged directly in research and development activities, including 6 Ph.D.s, and 4 of whom are in executive and administrative positions. Our employees are not governed by any collective bargaining agreement, and we believe that our relationship with our employees is good. We currently have an employment agreement with Dr. Bollon which expires on November 6, 2003. Although we maintain "key person" life insurance which provides that upon the death or incapacity of Dr. Bollon, we will receive $2 million, Dr. Bollon's death or incapacity could substantially hurt our business. The competition for qualified personnel is intense, and the loss of services of certain key personnel could substantially hurt our business.

OUR SCIENTISTS WORK FOR OTHER COMPANIES AND INSTITUTIONS, AND WE MAY NOT HAVE THE RIGHT TO THEIR INVENTIONS AND DISCOVERIES, WHICH MIGHT HAVE A MATERIALLY ADVERSE EFFECT ON OUR BUSINESS.

Our scientific collaborators and advisors are employed by companies and institutions other than us, and some of them have consulting or other advisory arrangements with other entities and institutions which could conflict or compete with their obligations to us. Inventions or processes discovered by such persons will not necessarily become our property but may remain the property of such persons or of such persons' full-time employers. Our failure to successfully assert our rights to any inventions or processes discovered by our scientists might have a material adverse affect on our business.

13

IF WE CANNOT OBTAIN SATISFACTORY PRODUCT LIABILITY INSURANCE FOR OUR FUTURE PRODUCTS, IF ANY, WE MAY NOT BE ABLE TO ENTER INTO MATERIAL AGREEMENTS WHICH REQUIRE US TO HAVE SUCH INSURANCE, AND INVESTORS COULD, THEREFORE, EXPERIENCE A DECREASE IN THE VALUE OF THEIR INVESTMENT.

To date, we have not had any product liability claims filed or threatened against us. In the future, however, when and if we develop products, our products could expose us to product liability claims. Although we intend to obtain product liability insurance for our ongoing clinical trials, we cannot say with any certainty that we will be able to obtain, maintain or increase our insurance coverage in the future on terms favorable to us, if at all, or that any claims against us will not be greater than the amount of such coverage. Distributors of pharmaceutical and biological products often require minimum product liability insurance coverage as a condition before they start purchasing or accepting products for distribution. Our failure to satisfy such insurance requirements could decrease our ability to achieve broad distribution of our proposed products and have a material adverse effect on our business and investors could experience a decrease in the value of their investment.

THE VALUE OF OUR SECURITYHOLDERS' INVESTMENT MAY BE SUPPRESSED BECAUSE OUR COMPANY MAY BE A LESS ATTRACTIVE TAKEOVER CANDIDATE DUE TO THE FACT THAT A MAJORITY OF OUR STOCK IS OWNED BY AFFILIATES.

Our current officers, directors and stockholders who own more than 5% of our securities beneficially own or control approximately 57.0% of our outstanding shares of common stock, which represents approximately 54.0% of our total outstanding voting securities. Such officers, directors and principal stockholders may, therefore, be able to elect all of our directors, to determine the outcome of most corporate actions requiring stockholder approval, and otherwise to control the direction of our business which may cause the price of our common stock to be suppressed.
See " Security Ownership of Certain Beneficial Owners and Management."

ALTHOUGH WE DO NOT PAY DIVIDENDS ON OUR COMMON STOCK, WE PAY ANNUAL DIVIDENDS ON OUR SERIES A PREFERRED STOCK BY GIVING THE HOLDERS THEREOF MORE SERIES A PREFERRED STOCK. OUR SERIES A PREFERRED STOCK IS CONVERTIBLE INTO COMMON STOCK, AND SUCH CONVERSION WILL DILUTE THE BOOK VALUE OF THE COMMON STOCK PURCHASED IN THIS OFFERING.

Since 1991, we have not paid any dividends on our common stock. We intend to retain future earnings, if any, to provide funds for the operation of our business and, accordingly, do not anticipate paying any cash dividends on our common stock in the future. Furthermore, the terms of our outstanding series A preferred stock do not allow for the payment of cash dividends on the common stock unless and until all accrued and unpaid dividends on the series A preferred stock shall have been paid or set apart for payment. Historically speaking, we have paid dividends on our series A preferred stock with payment-in-kind. Our series A preferred stock is convertible into an equal number of shares of common stock. As more holders of the series A preferred stock convert their preferred stock into common stock, investors in this offering will experience a decline in the book value of their common stock. See "Dividend Policy" and "Description of Securities."

WE ARE OBLIGATED TO INDEMNIFY OUR OFFICERS AND DIRECTORS, ABSENT CERTAIN CIRCUMSTANCES, WHICH MAY REQUIRE US TO SPEND TIME AND MONEY OTHERWISE ALLOCATED, AND CAUSE A DECREASE IN THE VALUE OF OUR SECURITYHOLDERS' INVESTMENT.

We are incorporated under the laws of the state of Delaware. Our certificate of incorporation includes certain provisions permitted under the Delaware General Corporation Law, whereby our officers and directors are indemnified by us against certain liabilities. Our certificate of incorporation also limits, to the fullest extent permitted by Delaware General Corporate Law, a director's liability for monetary damages for breach of fiduciary duty, including gross negligence, except liability for breach of loyalty, acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law, the unlawful payment of a dividend or unlawful stock purchase or redemption and any transaction from which the director derives an improper personal benefit. An insurance policy, which provides for coverage for certain liabilities of its officers and directors has been issued to us. However, although we do not currently know of any conduct of any officer or

director which may have a material effect on our business, if such insurance proves to be inadequate, we will have to use funds otherwise

allocated to indemnify any director. The use of funds and resources, including management's time and energy, to properly indemnify or otherwise prepare for the defense of any director might have a material adverse effect on our business.

WE ARE RELIANT UPON THE MARKET-MAKING ACTIVITIES OF JANSSEN-MEYERS ASSOCIATES, L.P., WHICH IS ALSO AN AFFILIATE. WITHOUT JANSSEN-MEYERS' MARKET-MAKING ACTIVITIES, INVESTORS MAY HAVE DIFFICULTY RESELLING THEIR SECURITIES.

Upon the completion of this offering, Messrs. Bruce Meyers and Peter Janssen will beneficially own approximately 10.5% and 6.9%, respectively, of our outstanding shares of common stock, which represents approximately 10.1% and 6.6%, respectively, of the total outstanding voting securities. Messrs. Meyers and Janssen are the principals of the corporate general partner of one of our market-makers who was also the underwriter of our initial public offering, Janssen-Meyers Associates, L.P. If Janssen-Meyers or its affiliates are deemed to have control of our business, regulatory requirements of the SEC, Nasdaq and the New York Stock Exchange, Inc. could prevent them from engaging in market-making activities relating to our securities. If Janssen-Meyers is unable to make a market in our securities because it is deemed to have effective voting control or if, for any other reason, it chooses not to or is unable to make a market in our securities, there can be no assurance that any other broker-dealers would make a market in our securities. Without market-makers, it would be very difficult for holders of our securities to sell their securities in the secondary market, and the market prices for such securities would be substantially harmed. Also, we cannot give any assurances that an active trading market for our securities be maintained whether or not Janssen-Meyers makes a market in our securities. In the absence of such a market, investors may be unable to liquidate their investment.

IF WE FAIL TO MEET NASDAQ'S MAINTENANCE REQUIREMENTS AND ARE DELISTED FROM NASDAQ, INVESTORS MAY HAVE DIFFICULTY SELLING THEIR SECURITIES, WHICH WOULD CAUSE A DECREASE IN THE VALUE OF THEIR INVESTMENT.

Our common stock, class C warrants and class D warrants are currently quoted on the Nasdaq SmallCap Market System. Our common stock is quoted under the symbol, "CYPH." Our class C warrants are quoted under the symbol, "CYPHW." Our class D warrants are quoted under the symbol, "CYPHZ." Nasdaq has certain requirements that every company must meet in order to have their securities quoted on the Nasdaq SmallCap System. Although we currently meet Nasdaq's criteria for continued listing, we cannot say with any certainty that we will continue to meet such criteria.

For continued inclusion on the Nasdaq SmallCap Market System, a company has to maintain the following:

- either:
  - net tangible assets of $2 million,
  - market capitalization of $35 million or
  - net income of $500,000 in the most recently completed fiscal year or in two of the last three most recently completed fiscal years;
- a minimum bid price of $1.00 per share;
- in the case of a convertible debt security, a principal amount outstanding of at least $5 million;
- in the case of common stock, at least 300 round lot holders; and
- 500,000 publicly held shares having a market value of at least $1 million.

If we are unable to meet the continued listing criteria of the Nasdaq SmallCap Market System any time in the future due to our continued operating losses or otherwise, and our securities are delisted, trading of our securities, if any, would be conducted in the over-the-counter market in the so-called "pink sheets" or, if available, the NASD's "Electronic Bulletin Board." As a result, investors could find it more difficult to dispose of, or to obtain accurate

quotations as to the value of, our securities.

IF WE ARE DELISTED FROM NASDAQ, BROKER-DEALERS MAY BE UNWILLING TO SELL INVESTORS' STOCK, AND INVESTORS WOULD EXPERIENCE A DECREASE IN THE VALUE OF THEIR INVESTMENT.

If our securities are delisted from the Nasdaq SmallCap Market System, they may become subject to Rule 15g-9 under the Exchange Act of 1934, which imposes additional sales practice requirements on broker-dealers that sell such securities. There are exceptions to Rule 15g-9 and they include transactions meeting the safe-harbor requirements of Rules 505 or 506 under Regulation D of the Securities Act, and transactions in which the purchaser is an institutional accredited investor, as defined in the Securities Act, or an established customer, as defined in the Securities Act, of the broker-dealer. For transactions which have to comply with the requirements of Rule 15g-9 under the Exchange Act of 1934, a broker-dealer must determine whether or not the purchaser meets a special suitability standard, and the broker-dealer must receive the purchaser's written consent to the transaction before the sale. These requirements could make broker-dealers unwilling or even unable to sell our securities which could make it more difficult for our investors to resell their securities to other parties.

IF OUR STOCK IS DELISTED BY NASDAQ AND BECOMES A "PENNY STOCK," INVESTORS MIGHT EXPERIENCE A DECREASE IN THE VALUE OF THEIR INVESTMENTS DUE TO THE RESTRICTIONS ON BROKER-DEALERS IN SELLING "PENNY STOCK."

The SEC defines a "penny stock" to be any equity security that has a market price under $5.00 per share or has an exercise price under $5.00 per share, subject to certain exceptions. Unless exempt, the rules require the delivery, prior to any transaction in a penny stock, of SEC material telling the purchaser certain information about the penny stock. Purchasers must also be told about the commissions that the broker-dealers and the registered representatives will get and they must be told about the securities current prices. Finally, purchasers must also be given statements every month which have to tell the purchaser about his or her securities' recent prices and about the limitations of the penny stock market. These penny stock restrictions will not apply to our securities if they stay quoted on the Nasdaq SmallCap Market System, and if they have certain price and volume information provided on a current and continuing basis or if they meet certain minimum net tangible assets or average revenue criteria. We cannot say with any certainty, however, that our securities will continue to meet the Nasdaq SmallCap Market requirements in the future and if we do not, the prices of our securities could decrease and investors could find it difficult to sell their securities. If we were to remain exempt from the penny-stock restrictions, we still have to comply with Section 15(b)(6) under the Exchange Act of 1934, which gives the SEC the authority to stop any person who breaks the law when selling penny stock from selling any more penny stock or from working with any broker-dealer.

WE HAVE GRANTED REGISTRATION RIGHTS TO SEVERAL PARTIES HOLDING OUR COMMON STOCK OR WHO HAVE THE RIGHT TO PURCHASE OUR COMMON STOCK. THE REGISTRATION OF SUCH SECURITIES WILL INCREASE THE NUMBER OF FREELY TRADEABLE SHARES OF OUR COMMON STOCK AND MAY DECREASE THE BOOK VALUE OF OUR SECURITYHOLDERS' SHARES OF OUR COMMON STOCK.

There will be 16,866,485 registered shares of our common stock outstanding upon the completion of this offering. All of these shares will be freely transferrable without restriction if we continue to comply with the SEC and certain states' registration requirements. Certain of our other outstanding securities are not registered with the SEC, and are considered to be "restricted securities" as that term is defined in Rule 144 under the Securities Act and may only be sold in certain circumstances.

We have also granted certain investors demand and piggyback registration rights to have their common stock registered with the SEC. We will have to pay for the expense of registration if one or more of these groups exercise their demand registration rights or "piggy-back" registration rights. The expense could be high. Also, because there would be a high number of shares outstanding, we could find it more difficult to obtain future financing.

The sale, or availability for sale, of substantial amounts of common

stock in the public market pursuant to Rule 144 or registration could cause the market price of the common stock and our other securities to decrease

which could hurt our ability to raise additional money through the sale of our securities or through debt financing. Also, to the extent that outstanding options and warrants are exercised, securityholders' ownership interest will drop. Also, if and to the extent that we reduce the exercise price of outstanding warrants or options, our stockholders could experience additional dilution. See "Description of Securities-Registration Rights."

THE VALUE OF THE SECURITYHOLDERS' INVESTMENT MAY BE SUPPRESSED BECAUSE OUR COMPANY MAY BE A LESS ATTRACTIVE TAKEOVER CANDIDATE DUE TO THE FACT THAT OUR BOARD OF DIRECTORS HAS THE DISCRETION TO ISSUE 10,000,000 SHARES OF PREFERRED STOCK SUPERIOR TO OUR COMMON STOCK WITHOUT STOCKHOLDER APPROVAL.

Our certificate of incorporation authorizes our board of directors to issue a maximum of 10,000,000 shares of preferred stock on terms which may be determined by them without getting stockholder approval. Of these 10,000,000 shares, 4,000,000 shares have already been designated as series A preferred stock of which 714,641 remain outstanding as of July 6, 1999. The series A preferred stock may be converted by the holder into an equal number of shares of common stock. Also, the terms of the series A preferred stock include dividend and liquidation preferences which could also hurt the rights of holders of the common stock being offered hereby. Each share of series A preferred stock is entitled to one vote on all matters on which the common stock has the right to vote. Holders of series A preferred stock are entitled to vote as a separate class on any proposed adverse change in their rights, preferences or privileges and any increase in the number of authorized shares of series A preferred stock. Further, the terms of any additional series of preferred stock, which may also include priority claims to assets and dividends, as well as special voting rights, could hurt the rights of the holders of the common stock being offered hereby. Other than the series A preferred stock, we have not issued any other preferred stock, and we do not plan to issue any additional preferred stock other than payment-in-kind dividends. Investors should also know that if too much preferred stock is outstanding, it could make it more difficult for a third party to take control of our business or to remove our board of directors and executive officers. Hostile bids for control of a company usually result in the market prices for a company's securities to increase. It would also dilute or subordinate the rights of holders of common stock and cause the market price of the common stock to drop.

INVESTORS WILL BE PREVENTED FROM RESELLING THEIR SECURITIES IF WE FAIL TO MEET APPLICABLE FEDERAL AND STATE REGISTRATION REQUIREMENTS OR FIND EXEMPTIONS FROM SUCH REQUIREMENTS.

The common stock and class D warrants offered in this offering can be resold by the investors only if a current registration statement relating to them is in effect with the SEC under the Securities Act, and if they are registered, qualified, or exempt therefrom, under the applicable state blue sky laws. We cannot say with any certainty that we will be able to meet the SEC and states' registration or exemption requirements. If we cannot meet the requirements, the investors will be unable to resell their common stock and class D warrants.

IF WE REDEEM THE CLASS D WARRANTS, INVESTORS MAY HAVE TO MAKE AN INVESTMENT DECISION AT A TIME WHICH MAY BE DISADVANTAGEOUS FOR THEM.

In addition, we have the right to redeem the class D warrants at $.05 per warrant on at least 30 days' prior written notice if the average closing bid price, or last sales price, of the common stock for 30 consecutive business days ending within 15 business days of the date on which the notice of redemption is given exceeds $12.25 per share. If the class D warrants are redeemed, holders of the warrants will lose their right to exercise them, except during such 30-day notice of redemption period. Upon the receipt of a notice of redemption of the class D warrants, the holders thereof will be required to exercise the warrants and pay the exercise price at a time when it may be disadvantageous for them to do so, sell the warrants at the then market price, if any, when they might otherwise wish to hold the warrants, or accept the redemption price, which is likely to be substantially less than the market value of the warrants at the time of redemption.

17

MARKET FOR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Our common stock, class C warrants and class D warrants are quoted in the over-the-counter market on the Nasdaq SmallCap Market System under the symbols "CYPH," "CYPHW" and "CYPHZ," respectively. The following table sets forth the respective high and low bid prices for the common stock, class C warrants and class D warrants as reported by the National Association of Securities Dealers, Inc. for the periods indicated. The prices set forth below represent quotes between dealers and do not include commissions, mark-ups or mark-downs, and may not necessarily represent actual transactions.

	Common stock		Class C warrants		Class D warrants	
	High	Low	High	Low	High	Low
Fiscal 1997						
1st Quarter	$4-7/16	$2-1/8	$1-7/8	$11/16	$11/16	$5/32
2nd Quarter	3-1/4	2-1/2	1	3/8	5/8	1/4
3rd Quarter	10-1/16	2-7/16	5-7/8	9/16	2-11/16	3/16
4th Quarter	11-1/2	5-7/8	9-3/8	2-13/16	5	1-3/8
Fiscal 1998						
1st Quarter	12	5-3/4	9-3/4	4-1/2	5	2-1/8
2nd Quarter	14-3/4	6-7/6	14-5/16	4-1/4	6-3/8	2-7/8
3rd Quarter	9-5/8	3-1/8	7-1/8	2	3-11/16	15/16
4th Quarter	7-7/16	4-3/8	4-1/4	1-5/8	2-1/4	15/16
Fiscal 1999						
1st Quarter	9-7/16	6-7/8	6-3/4	3-5/8	3-5/8	1-3/8
2nd Quarter	7-1/2	6-1/16	3-5/16	2-3/8	1-5/16	7/8
3rd Quarter (July 6, 1999)	8-7/16	5-3/8	4-5/8	1-15/16	2	3/4

We believe that as of July 6, 1999, there were in excess of 1,000 beneficial holders of our common stock.

18

DIVIDEND POLICY

Since 1991, we have not declared or paid any cash dividends on our common stock. We intend for the foreseeable future to reinvest earnings, if any, and to fund the development and expansion of our business. The declaration of dividends in the future will be at the discretion of our Board of Directors and will depend upon our earnings, capital requirements and financial position, general economic conditions and other pertinent factors. The terms of our series A preferred stock do not allow us to pay cash dividends on the common stock unless and until all accrued and unpaid dividends on the series A preferred stock are paid or set apart for payment. We paid dividends in cash of $121,491 and in-kind of shares of series A preferred stock in payment of our 1992 dividend on the series A preferred stock. For the fiscal years ended December 31, 1993, 1994, 1995, 1996, 1997 and 1998, we paid in-kind dividends on our series A preferred stock of 104,869; 115,307; 126,888; 122,788; 94,680 and 74,648 shares of series A preferred stock, respectively.

DILUTION

At March 31, 1999, our common stock had a net tangible book value of $4,601,000, or $.45 per share, which represents the amount of our total tangible assets less liabilities, based on 10,291,322 outstanding shares of common stock. Giving effect to the exercise of our outstanding class C warrants, the pro forma net tangible book value of the shares of common stock at March 31, 1999 would have been $1.37 per share, representing an immediate dilution per share of $5.13 to individuals exercising their class C warrants. Giving additional effect to the exercise of our outstanding class D warrants and the class D warrants issuable upon exercise of the outstanding class C warrants, the pro forma net tangible book value of the shares of common stock at March 31, 1999 would have been $3.24 per share, representing an immediate dilution per share of $5.51 to individuals exercising their class D warrants and assuming the prior exercise of all class C warrants. Dilution per share represents the difference between the

exercise price and the pro forma net tangible book value per share after the exercise of the warrants.

The following table illustrates the per share dilution to be experienced by individuals exercising their class C warrants and class D warrants, assuming they are all exercised:

	Class C warrants	Class D warrants-assuming prior exercise of all class C warrants
Exercise price	$ 6.50	$ 8.75
Net tangible book value per share before exercise of warrants	.45	.45
Increase per share attributable to exercise of warrants	.92	2.79
Pro forma net tangible book value after exercise (1)	1.37	3.24
Dilution to new investors	$ 5.13	$ 5.51

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(1) Assumes the entire exercise price, less expenses, is allocated to the common stock obtained upon exercise.

USE OF PROCEEDS

Holders of our warrants are not obligated to exercise any of their warrants, and there can be no assurance that any holders will choose to do so. We cannot predict the timing of any exercise, although holders are likely to exercise warrants at such time when the market price of our common stock is above the exercise price of the warrants. In the event that all of the 2,006,073 outstanding class C warrants are exercised, our net proceeds will be approximately $12,303,000 after deducting expenses, including the 5% solicitation fee to Janssen-Meyers Associates, L.P. In the event that all of the 2,510,927 outstanding class D warrants and 2,006,073 class D warrants issuable upon exercise of the outstanding class C warrants are exercised, we will receive net proceeds of approximately $49,850,000 after deducting expenses, including the 5% solicitation fee to Janssen-Meyers Associates, L.P. We will use any of the net proceeds from the exercise of warrants for research and development and general corporate purposes.

The foregoing represents our best estimate of the allocation of the net proceeds received upon exercise of the class C warrants and the class D warrants based upon the current status of our business operations, current plans and current economic conditions. Future events, including the problems, delays, expenses and complications frequently encountered by early stage companies as well as changes in competitive conditions affecting our business and the success, or lack thereof, of our marketing efforts, may cause us to change the allocation of funds.

Prior to expenditure, we will invest the net proceeds in high-liquidity, U.S. government and corporate obligations, interest-bearing money market funds and other financial instruments.

CAPITALIZATION

The following table sets forth our actual and adjusted capitalization

as of March 31, 1999. This table should be read in conjunction with the financial statements and notes thereto included elsewhere in this prospectus.

	Actual	As Adjusted (1)(2)	As Adjusted (1)(3)
STOCKHOLDERS' EQUITY			
Preferred stock--$.01 par value; 10,000,000 shares authorized; series A preferred stock, 791,731 shares issued and outstanding actual and as adjusted....	8,000	8,000	8,000
Common stock--$.01 par value; 30,000,000 shares authorized, 10,291,322 shares issued and outstanding actual (1).....	103,000	123,000	168,000
Additional paid-in capital.....	24,282,000	36,564,000	74,067,000
Accumulated deficit.....	(18,917,000)	(18,917,000)	(18,917,000)
Total stockholders' equity	5,476,000	17,778,000	55,326,000
Total capitalization	$5,476,000	17,778,000	55,326,000

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(1) Does not include the possible issuance of:

- 1,796,100 shares of common stock issuable upon the exercise of options authorized for grant under our 1992 and 1996 stock option plans;
- 303,088 shares of common stock issuable upon the exercise of our outstanding class A and B warrants;
- 714,641 shares of common stock issuable upon the conversion of our outstanding series A preferred stock;
- 800,000 shares of common stock issuable upon the full exercise of an option we granted to the underwriter of our initial public offering in November 1995;
- 335,540 shares of common stock issuable upon the exercise of our outstanding class E warrants;
- 201,300 shares of common stock issuable upon the full exercise of an option we granted to the placement agent of our 1998 private placement;
- 175,000 shares of common stock issuable upon the exercise of options and warrants we granted to professionals for their services; and
- 36,000 shares of common stock issuable upon the exercise of warrants granted for research and development.

(2) Gives effect to the exercise of 2,006,073 outstanding class C warrants at $6.50 per share.

(3) Gives effect to the exercise of 2,006,073 outstanding class C warrants at $6.50 per share and 4,517,000 class D warrants at $8.75 per share.

SELECTED FINANCIAL DATA

The following selected financial data has been derived from our audited and unaudited financial statements. Our financial statements for the years ended December 31, 1998 and 1997, including the notes thereto, have been audited by Richard A. Eisner & Company, LLP, our independent auditors, and are included elsewhere in this prospectus. The following data should be read in conjunction

with such financial statements.

STATEMENT OF OPERATIONS DATA

	Year Ended December 31,		Three Months Ended March 31,	
	1997	1998	1998	1999
			(unaudited)	
Revenue (1)	$ --	$ 1,183,000	$ --	$ 233,000
Research and development expenses	1,469,000	1,692,000	360,000	872,000
General and administrative expenses	1,888,000	2,500,000	447,000	513,000
Net interest expense (income)	(105,000)	(281,000)	(17,000)	(67,000)
Net (loss)	(3,252,000)	$(2,728,000)	(790,000)	(1,085,000)
Net (loss) per share of common stock	$ (.42)	$ (.30)	$ (.10)	$ (.11)
Weighted average number of shares	8,268,000	9,742,000	8,840,000	10,268,000

BALANCE SHEET DATA:	At March 31, 1999		
	Actual	As Adjusted (2)	As Adjusted (3)
Working capital	$ 5,440,000	$ 17,743,000	$ 55,290,000
Total assets	7,452,000	19,754,000	57,302,000
Total liabilities	1,976,000	1,976,000	1,976,000
Accumulated deficit	(18,917,000)	(18,917,000)	(18,917,000)
Total stockholders' equity	5,476,000	17,778,000	55,326,000

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(1) Through June 1998, we have not generated any sales revenues.
(2) Gives effect to the exercise of 2,006,073 class C warrants, the application on the net proceeds therefrom, and assumes that a 5% solicitation fee is paid to for each warrant exercise.
(3) Gives effect to the exercise of 2,006,073 class C warrants and 4,517,000 class D warrants, the application on the net proceeds therefrom, and assumes that a 5% solicitation fee is paid to for each warrant exercise.

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

We were originally incorporated in the state of Texas in September 1991. Until June 1998, we were still in the development stage. To this day, our efforts have been principally devoted to research and development activities and organizational efforts, including the development of products for the treatment of cancer and infectious diseases, recruiting our scientific and management personnel and advisors and raising capital.

Our plan of operation for the next 12 months will consist of research and development and related activities aimed at:

- continued collaboration with Bristol-Myers Squibb on the production of Paclitaxel from fermentation and Paclitaxel-specific genes;

- further development of the Paclitaxel treatment of Polycystic Kidney Disease, a potential new Paclitaxel indication;

- development of a drug design program using Quantum Core Technology(TM);
- evaluation of potential new microbial anti-cancer drugs with Bristol-Myers Squibb;
- further development of a diagnostic test which may indicate a predisposition to, or early sign of, lung or other cancers;
- further testing of peptide licensed from UCLA to suppress breast cancer;
- further analysis of the technology resulting from our collaborative agreement with Pestka Biomedical Laboratories, Inc. as an anti-cancer agent in animal studies;
- further development and potential marketing of the anti-sense technology currently being conducted at the University of Texas at Dallas;
- developing an anti-body or peptide for the protein associated with the lung cancer gene and, if successful, submission of an investigational new drug application for clinical trials;
- making improvements to our laboratory facilities and corporate facilities;
- hiring additional research technicians and a financial vice president;
- seeking to establish strategic partnerships for the development, marketing, sales and manufacturing of our proposed products;

Our actual research and development and related activities may vary significantly from current plans depending on numerous factors, including changes in the costs of such activities from current estimates, the results of our research and development programs, the results of clinical studies, the timing of regulatory submissions, technological advances, determinations as to commercial potential and the status of competitive products. The focus and direction of our operations will also be dependent upon the establishment of collaborative arrangements with other companies, the availability of financing and other factors.

For the period from January 1, 1999 to March 31, 1999, we incurred a net loss of $1,085,000 compared to a net loss of $790,000 for the same period in 1998. The increase for the three month period from the previous year was attributable to increased operating expenses, partially offset by an increase in revenue received from licensing and research and development agreements and an increase in interest income. We expect to incur additional losses in the foreseeable future.

We incurred general and administrative expenses of $513,000 and $447,000 for the three months ended March 1999 and March 1998, respectively. The increase from the previous year was attributable to increased expenses for contract labor and travel and lodging expenses, partially offset by a decrease in legal and professional expenses.

We incurred research and development expenses of $872,000 and $360,000 for the three months ended March 1999 and March 1998, respectively. The increase was attributable to a large extent to a non-recurring expense for the acquisition of the drug design technology, Quantum Core TechnologyTM developed by Dr. Dorit

Arad, and for research activities in Israel. Additionally, the increase was attributable to funding for the research programs at Washington State University and Research & Development Institute, Inc. (RDI), an increase in laboratory supplies and an increase in research salaries and payroll taxes. Included in research and development expenses for the three months ended March 1999 was a non-cash charge of $291,000 relating to the valuations of common stock and options issued in connection with services rendered in identifying and securing the drug design technology.

We incurred net losses of $2,890,000, $3,252,000 and $2,728,000 for the twelve months ended December 1996, 1997 and 1998, respectively. The increase in net losses from 1996 to 1997 was attributable to decrease in interest income and an increase in general and administrative expenses. The decrease from 1997 to 1998 was attributable to revenue received from our license and research and development agreements with Bristol-Myers Squibb and an increase in interest income, partially offset by an increase in research and development expenses and general and administrative expenses. We expect to incur additional losses in the foreseeable future.

We incurred general and administrative expenses of $1,530,000, $1,888,000 and $2,500,000 for the twelve months ended December 1996, 1997 and 1998, respectively. The increase from 1996 to 1997 was attributable to increased legal and professional fees, as well as, increased consulting fees and travel expenses. Included in general and administrative expenses for 1997 was a non-cash charge of $133,000 related to the valuation of stock options we issued to consultants. The increase from 1997 to 1998 was attributable to increased legal and professional fees, including increased patent expenses, as well as increased insurance costs, increased public relations and financial relations expenses, partially offset by a decrease in consulting fees and a decrease in travel and lodging expenses. Included in general and administrative expenses for 1998 was a non-cash charge of $197,000 related to the valuation of stock options we issued to consultants,

We incurred research and development expenses of $1,576,000, $1,469,000 and $1,692,000 for the twelve months ended December 1996, 1997 and 1998, respectively. The decrease from 1996 to 1997 was attributable to the completion of our funding obligation to the Research & Development Institute at Montana State University and was partially offset by increased expenses for contract research and development at the Washington State University Research Foundation and increased rent expenses. The increase from 1997 to 1998 was attributable to increased funding for the research programs at the Washington State University Research Foundation and the Research & Development Institute at Montana State University, an increase in contract labor costs and an increase in license fees, partially offset by a decrease in laboratory supply expenses.

In April 1998, we received net proceeds of approximately $4,837,000 from the sale of 56 units consisting of 671,026 shares of common stock and class E warrants to purchase 335,540 shares of our common stock at exercise prices ranging from $9.82 to $11.35 per share, subject to adjustment upon the occurrence of certain events. During the year ended December 31, 1998, we also received proceeds of approximately $2,630,000 from the exercise of options and warrants. We believe that we have sufficient capital to finance our plan of operation in excess of 12 months. However, there can be no assurance that we will generate sufficient revenues, if any, to fund our operations after such period or that any required financings will be available, through bank borrowings, debt or equity offerings, or otherwise, on acceptable terms or at all.

BUSINESS

GENERAL

We are a biopharmaceutical company focused on the development of diagnostic and therapeutic products for the identification, treatment and prevention of cancer and infectious diseases. To date, we have been involved solely in research and development activities relating to several products that are at various stages of development. Our research and development activities relate principally to our proprietary Paclitaxel fermentation production system, diagnostic and imaging lung cancer products, human gene discovery program, Quantum Core Technology(TM) and our vaccine program. Taxol(R) is the brand name for Paclitaxel and has been designated by the National Cancer Institute as the most important cancer drug introduced in the past decade.

Our strategy is to focus on:

- collaborating with Bristol-Myers Squibb Company, Inc. pursuant to our license and research and development agreements with them to develop Paclitaxel in commercial

quantities and at lower costs;

- our Paclitaxel fermentation production system program since Paclitaxel has been approved by FDA as a treatment for breast cancer, ovarian cancer, Kaposi's Sarcoma and lung cancer;

- the treatment of Polycystic Kidney Disease using Paclitaxel;

- our Quantum Core Technology(TM) for drug design;

- our human gene discovery program for the diagnosis and treatment of lung cancer, the second most common form of cancer;

- our vaccine program and

- the use of an anti-estrogen peptide for breast cancer.

We were created in September 1991 to acquire rights to certain proprietary cancer and viral therapeutic technology developed at the Wadley Institutes in Dallas, Texas. Through our own research and development efforts and agreements with other research institutions and biotechnology companies, we have acquired and developed additional proprietary technology and rights. However, to date, we have not developed any commercial products, and we will require significant additional financing to complete development of, and obtain regulatory approvals for, our proposed products which, if ever received, can take several years. See "-Collaborative Agreements-WadTech."

In June 1993, we received an exclusive, world-wide license to use patented fungal technology to synthesize Paclitaxel from the Research & Development Institute at Montana State University. Paclitaxel has proven to be effective in treating refractory ovarian and breast cancers, lung cancer and Kaposi's sarcoma, and in preliminary clinical trials, has shown potential in treating other cancer indications. Presently, Paclitaxel is made from the inner bark and needles of the slow-growing Pacific yew tree. Our scientists, in cooperation with the inventors of the microbial Paclitaxel technology, are using this technology and fermentation technology to develop a system for manufacturing Paclitaxel in commercial quantities and at lower costs than currently available production methods. In 1994, a patent covering the original fungal strain that produces Paclitaxel issued. In March 1999, a broad patent issued for the production of Paclitaxel by utilizing the technology licensed to us pursuant to our agreement with the Research & Development Institute at Montana State University to isolate microorganisms from the slow growing Pacific yew tree.

In February 1996, we obtained exclusive rights to a technology and pending patent developed at the University of California at Los Angeles for the Paclitaxel treatment of Polycystic Kidney Disease. The patent issued in 1998.

In June 1996, we entered into a patent license agreement with the Board of Regents of the University of Texas. Pursuant to this agreement we received an exclusive royalty-bearing license to manufacture, have manufactured, use, sell and sublicense products related to a U.S. patent application entitled, "A Method for Ranking Sequences to Select Target Sequence Zones of Nucleus Acids." The technology has identified optimum regions within genes to bind anti-sense products. Anti-sense products are under development to control genes involved in human diseases such as cancer, diabetes, or AIDS. A patent issued in 1999. This discovery potentially has broad applications to many human and viral genes involved in human disease.

In July 1996, we entered into an agreement with the Washington State University Research Foundation. Pursuant to this agreement, we received an exclusive, world-wide license to use and sublicense patented technology or prospective patented technology relating to genes and the associated gene products, including the enzymes, in the biosynthetic pathway for Paclitaxel from the yew tree. The genes will be used to further optimize our Paclitaxel production system.

In June 1998, we entered into a license agreement and a research and development agreement with Bristol- Myers Squibb. Pursuant to the license agreement, we granted Bristol-Myers Squibb exclusive sublicenses to our

agreements with the Research & Development Institute at Montana State University and the Washington State University Research Foundation. Our research and development agreement with Bristol-Myers Squibb contemplates a program directed toward developing microbial fermentation and genetic engineering technologies for the production of Paclitaxel and other taxanes.

In August 1998, we obtained exclusive world-wide rights to a technology and pending patent developed at UCLA for a peptide anti-estrogen breast cancer therapy for a term of the life of the patent, subject to termination in certain circumstances.

In December 1998, we obtained an exclusive license to technology for the fungal production of Telomerase, the so-called "immortality enzyme," from the Research & Development Institute at Montana State University.

On January 1999, we acquired proprietary technology for rational-based drug design developed by Dorit Arad, Ph.D. and employed Dr. Arad as our Vice President of Drug Design.

We were originally incorporated in the state of Texas in September 1991. Our name was Bio Pharmaceutics, Inc. In November 1991, we changed our name to Cytoclonal Pharmaceutics Inc. We were then reincorporated in Delaware by merger into a wholly-owned Delaware subsidiary in January 1992.

RESEARCH AND DEVELOPMENT PROGRAMS

MICROBIAL PACLITAXEL PRODUCTION SYSTEM PROGRAM

Our scientists, in collaboration with the inventors of the microbial Paclitaxel technology, have developed a system for the production of Paclitaxel utilizing microbial fermentation. Microbial fermentation is considered one of the most cost-effective systems for drug production. We have established agreements with Bristol-Myers Squibb to develop microbial fermentation for the commercial production of Paclitaxel.

Presently, Paclitaxel is made from the inner bark and needles of the slow-growing Pacific yew tree. Supplies of Paclitaxel are limited and expensive. The technology licensed to us by the Research & Development Institute at Montana State University utilizes Paclitaxel producing micro-organisms, such as the fungus Taxomyces andreanae. This fungus was initially isolated from a Pacific yew tree and has been adapted to grow independently from the yew tree utilizing fermentation processes. Detailed chemical analysis of the Paclitaxel produced by the fungus indicates chemical equivalency to Taxol(R) produced from the Pacific yew tree; Science, 260, 214-216 (1993). Additional micro-organisms have been isolated and are under development.

The Paclitaxel producing fungus was discovered by Dr. Gary Strobel of Montana State University, Dr. Andrea Stierle and Dr. Donald Stierle of the Montana College of Mineral Science and Technology. Dr. Strobel and Dr. Stierle assigned their rights to the microbial Paclitaxel technology to the Research & Development Institute at Montana State University, a non-profit corporation which manages intellectual property for Montana State University and the Montana Collage of Mineral Science and Technology. The Research & Development Institute at Montana State University was issued a U.S. patent on the microbial Paclitaxel technology on June 21, 1994 covering the method of isolating the fungus which produces Paclitaxel, the use of the fungus to make Paclitaxel, and the method of producing Paclitaxel from the fungus. In June 1993, we entered into an agreement with the Research & Development Institute at Montana State University whereby they granted us worldwide exclusive rights to their technology. It has been reported that over ten companies, including several major pharmaceutical companies, were competing to license this technology. In March 1999, a broad patent issued for the production of Paclitaxel by microorganisms isolated from the slow growing Pacific yew tree utilizing this technology. We believe that the experience of Dr. Arthur P. Bollon, our Chairman, President and Chief Executive Officer, in the area of fungi, which originated from his Post-Doctoral Fellowship at Yale University, combined with our research and development activities in anti-cancer products, contributed to our obtaining the license.

Our Paclitaxel fermentation production system may also produce certain compounds called "Taxanes" which can be precursors to Paclitaxel or related

compounds like Taxotere. These compounds are under investigation by several entities, including Rhone-Poulenc Rorer Pharmaceuticals, Inc., which is using Taxotere as a therapeutic for use in the treatment of lung cancer.

Development efforts are continuing with respect to our Paclitaxel fermentation production system with the goal of generating commercial quantities of Paclitaxel at reduced costs. Our scientists, in conjunction with the inventors of the microbial Paclitaxel technology, have increased the level of Paclitaxel production over 3,000 fold from the initial levels of production under the Paclitaxel fermentation production system. Media, growth conditions and strain improvements continue to be used to improve the Paclitaxel fermentation production system. Our participation in this development program is under the direction of Dr. Rajinder Sidhu, the director of our fungal Paclitaxel program, and Dr. Bollon.

Furthermore, in July 1996, we and the Washington State University Research Foundation entered into an agreement whereby we were granted the exclusive rights to a gene isolated from the Yew tree by Dr. Rodney Croteau. The gene codes for the enzyme, Taxadiene Synthase, which is a critical step for Paclitaxel production. The gene and other Paclitaxel genes isolated by Dr. Croteau are expected to be utilized to further increase the efficiency of Paclitaxel synthesis by fermentation. Manipulation of genes by genetic engineering have greatly improved production of pharmaceutical products such as antibiotics and human interferon and insulin.

The National Cancer Institute has recognized Taxol(R) as one of the most important cancer drugs discovered in the past decade. Paclitaxel, although not a cure for cancer, promotes the assembly of cellular microtubules to render fast growing cells, such as cancer cells, unable to divide and proliferate. This mode of action is in contrast to most cancer drugs which target the cell nucleus or DNA. Paclitaxel has proven to be effective in treating treatment- resistant ovarian and breast cancers, and forms of lung cancer and certain other cancers. Due to its different mode of action, Paclitaxel is being tested in combination therapy with other cancer therapeutic drugs.

Evidence to date has shown that Paclitaxel is generally well tolerated by patients with reduced side effects compared to other chemotherapy treatments. Considering that no currently available anti-cancer agents are free from toxicity, Paclitaxel's comparatively safety profile suggests substantial improvements in quality of life for patients who must undergo chemotherapy. Nevertheless, hypersensitivity reactions and other side effects have been noted during Paclitaxel administration. Reactions are characterized by transient hypotension and an allergic type response, which appear to cease upon stopping drug administration. Premedication effectively minimizes or eliminates this problem, although side effects may nevertheless limit some patients' use of Paclitaxel. In addition, Paclitaxel has been shown to produce a loss of sensation or pain and tingling in the extremities and low white blood cell counts, which also may, in certain cases, limit some patients' use of Paclitaxel.

In June 1991, the National Cancer Institute formalized a Collaborative Research and Development Agreement for the development of Taxol(R) with Bristol-Myers Squibb as its pharmaceutical manufacturing and marketing partner. The agreement granted Bristol-Myers Squibb the exclusive use, until December 1997, of the National Cancer Institute's clinical data relating to Paclitaxel in seeking approval from FDA, which significantly shortened the approval process and prevented any other party from obtaining FDA approval using the National Cancer Institute data. Although Bristol-Myers Squibb has since lost its right of exclusivity under the agreement, effective Paclitaxel exclusivity is still being maintained by Bristol-Myers Squibb due to a patent on its Taxol(R) infusion method. That exclusivity is currently being contested by other competitors in the courts. Bristol-Myers Squibb received FDA approval for the commercial sale of its Taxol(R) as a treatment for refractory ovarian cancer in December 1992, refractory breast cancer in April 1994 and Kaposi's Sarcoma in August 1997. In 1998, Bristol- Myers Squibb received approval for Taxol(R) treatment of lung cancer. Since December 1992, Bristol-Myers Squibb has been the sole source of Taxol(R) for commercial purposes. It is our understanding that Bristol-Myers Squibb is currently conducting clinical trials required for The Food & Drug Administration approval of Taxol(R) for treating other cancers. See "-Competition."

Alternative production systems for Paclitaxel, such as plant cell culture, complete synthesis and improved processing of yew tree material, are under investigation by other companies and research institutions, and there can be no assurance that such alternative methods will not be developed prior to our proposed method or that they will not prove more efficient and cost effective than our methods.

POLYCYSTIC KIDNEY DISEASE

In February 1996, we entered into two license agreements with the University of California at Los Angeles granting us exclusive rights to a pending patent entitled, "Inhibition of Cyst Formation By Cytoskeletal Specific Drugs" that makes use of various drugs, one of which is Paclitaxel, and technology for the treatment of Polycystic Kidney Disease.

Approximately 500,000 individuals in the U.S. and 5 million individuals world-wide are afflicted with Polycystic Kidney Disease. There is no treatment except management by dialysis or transplantations. Dr. David Woo of UCLA has shown in an animal model system that Taxol(R) inhibits cyst enlargement, resulting in increased survival of treated animals. In collaboration with Dr. Woo, we are attempting to develop, although there can be no assurance of successful completion, this potential new use of Taxol(R). There can be no assurance that we will be able to perform human clinical studies for Taxol(R) treatment or, if performed, such studies will be successful. Also, a patent for treatment of Polycystic Kidney Disease by Taxanes, of which Paclitaxel is included, issued in 1998.

We are currently in negotiations with potential strategic partners for the Paclitaxel treatment of Polycystic Kidney Disease. However, there can be no assurances that such negotiations will be successful.

QUANTUM CORE TECHNOLOGY(TM)

In connection with our employment of Dorit Arad, Ph.D. as Vice President of Drug Design in January 1999, we acquired rights to certain proprietary molecular scaffolds and technology for the mechanism-based design of novel protease inhibitors as well as certain anti-cancer and anti-viral agents developed by Dr. Arad in Tel Aviv, Israel. The design of mechanism-based protease regulators is built upon an understanding of target structure and chemical mechanism. Unlike structure-based rational drug design and combinatorial chemistry where large numbers of molecules based upon known substrate structure, with non-selective chemistry, may be screened for high affinity binding and/or activity, we begin with an "active" core or scaffold of low molecular weight known to be mechanism specific. Affinity maturation to optimize enzyme binding (selectivity) is then achieved by standard combinatorial chemistry approaches. Through our own proposed research and development efforts as well as through potential future collaborative agreements with research institutions and other pharmaceutical companies, we anticipate, although there can be no assurance, developing additional proprietary technology to serve as the basis for the eventual introduction of commercial products. Commercial development of these products will require significant additional financing for completion of development, clinical studies and obtainment of regulatory approvals.

HUMAN GENE DISCOVERY PROGRAM/LUNG CANCER PROGRAM

Our human gene discovery program focuses on identifying and isolating human genes by utilizing biological markers employing monoclonal antibodies and analyzing cellular activities associated with the cause or treatment of various diseases. Genes play an important role in the development of a variety of therapeutics, diagnostics and other products and services. Proteins expressed by genes are the targets of many drugs. As a result, the identification of proteins can play an important role in the development of drugs and drug screens. The identification of genes that code for proteins that may be missing or defective can enable the development of therapeutics for genetic diseases. In addition, identification of genes that may predispose a person to a particular disease may enable the development of diagnostic tests for the disease.

One of the central features of our human gene discovery program is our proprietary human gene expression libraries and our RetroselectionTM approach to

isolating human genes with a defined function. Currently, these libraries consist of over 50,000 human gene clones which we isolated through extracting expressed messenger RNA from human tissue and cells in different development stages and in normal and diseased states. By comparing the genes expressed from tissue in different physiological states, we hope to identify genes that are expressed during different stages of a disease and that could serve as components of diagnostic tests or as targets for therapeutic drugs. Our human gene discovery program concentrates on gene products with associated biological or medical use as opposed to only DNA sequences. At present, we are focusing on creating monoclonal antibodies and DNA probes products for diagnostic and imaging applications.

We are developing a proprietary monoclonal antibody which recognizes a specific protein on the surface of some lung cancer cells which is believed to represent approximately 65% of lung cancers. In addition, the cancer related human gene that makes this surface protein has been isolated by our scientists by a process which we call "Retroselection." The specificity of this protein to some lung cancers is based upon studies of biopsy material, biodistribution studies of animal model systems and Phase I clinical trials. We filed a U.S. patent application for this gene in July 1994 and such patent issued in December 1996. A patent for the lung cancer gene marker issued in June 1998.

We are developing the lung cancer gene and lung cancer monoclonal antibody as a potential diagnostic product to test in vitro serum, tissue or respiratory aspirant material for presence of cells which may indicate a predisposition or early sign of lung cancer. The lung cancer monoclonal antibody is also being developed as an in vivo imaging agent for lung cancer. An imaging agent may assist physicians in establishing the location of a cancer

and determine whether the cancer has spread to other sites in the body. In Phase I human clinical trials performed at Wadley, the lung cancer monoclonal antibody made from mouse cells and labeled with a radioactive marker showed strong specificity in 5 of 6 patients. In these trials, the lung cancer monoclonal antibody bound to the lung cancer but was not detectable for normal lung cells. These clinical studies will be expanded with a human-related form of the lung cancer monoclonal antibody which is presently under development by Cytoclonal Pharmaceutics Inc. Working with cells in culture, Cytoclonal Pharmaceutics Inc. is studying whether the lung cancer gene itself may be potentially useful as a genetic probe to test for the presence of the lung cancer gene expression where the lung cancer protein has not been made or has been made at low levels.

Additional potential products under development using the lung cancer gene and lung cancer monoclonal antibody are products for the delivery of therapeutic drugs, such as Paclitaxel, to the cancer. The involvement of the lung cancer gene in the formation and metabolism of the lung cancer is also under investigation. In addition, the lung cancer protein could possibly be used as an antigen for a vaccine against non-small cell lung cancer. We have deferred plans to initiate testing in animal model systems and conducting clinical trials since successful development of vaccine applications will take significant additional research and development efforts and expenditures.

Our human gene discovery program is also being used to isolate additional novel cancer related genes utilizing specific monoclonal antibodies for breast and ovarian cancer and melanoma which are proprietary to Cytoclonal Pharmaceutics Inc. A U.S. patent for the melanoma monoclonal antibody was issued to WadTech and assigned to us. A U.S. patent for a melanoma antigen was issued to us in August 1997.

Our human gene discovery program is conducted under the direction of Dr. Richard Torczynski and Dr. Bollon. Dr. Torczynski and Dr. Bollon have extensive experience isolating human genes including the lung cancer gene. The human-related form of the lung cancer monoclonal antibody is under the direction of Dr. Susan Berent.

OTHER PROGRAMS

In addition to our Paclitaxel fermentation production system program, Paclitaxel treatment of Polycystic Kidney Disease, Quantum Core TechnologyTM and human gene discovery program/lung cancer program, we are pursuing other programs at modest levels which may serve as platforms for the development of future products or alternatives to such primary programs. These include the following

programs:

- Vaccine Program;
- Anti-Sense Therapeutics Program;
- Production of Telomerase-the so-called "immortality enzyme";
- TNF-PEG: Broad Range Anti-cancer Drug Program;
- IL-T: Prevention of Radiation and Chemotherapy Damage Program; and
- IL-P Anti-leukemic Product Program.

Vaccine Program. The main objective of our vaccine program is to develop genetically engineered live vaccines for diseases that are life threatening. Our current strategy consists of identifying bacterial host strains that are best suited for delivering recombinant immunogens and cancer markers; developing proprietary cloning and expression vectors that can transfer, maintain and express recombinant immunogens and cancer markers in the delivery system; and cloning genes for specific immunogens or cancer markers into the vectors and testing the vaccine system in appropriate animal models and, if successful, commencing clinical trials.

We have identified three host strains of mycobacteria that appear well suited for expressing and delivering protein and lipid antigens. Furthermore, we have constructed plasmid and phage-based cloning vectors and developed reproducible transformation techniques for the host strains. These vectors have large cloning capacities and are highly efficient in transformation. Potential antigens for cancer markers are the proprietary lung cancer gene and other cancer genes for breast cancer and melanoma which are under development. Our goal is to license new cancer specific marker genes and to enter into strategic partnerships to develop vaccines for infectious diseases, such as tuberculosis.

These vaccine studies are under the direction of Dr. Labidi, the director of our vaccine program. Dr. Labidi, who received his Ph.D. in Microbiology from the Pasteur Institute, in Paris, France, was one of the early investigators to establish the plasmid profile of several mycobacterium species, and was the first to isolate, characterize and sequence the mycobacterium plasmid pAL5000 which has contributed to mycobacterium cloning and expression vectors. Working with Dr. Labidi is Dr. Hugo David, a consultant and member of our Scientific Advisory Board. Dr. David was formerly the head of the tuberculosis program at the Center for Disease Control in the U.S. and at the Pasteur Institute.

Anti-sense Therapeutics Program. Anti-sense has the potential of regulating genes involved in various disease states. We sponsor anti-sense research and development under the direction of Dr. Donald Gray, Professor of Molecular and Cell Biology at University of Texas at Dallas. We obtained an exclusive world-wide license for certain anti-sense technology developed by Dr. Gray. Pursuant to this program, Dr. Gray has developed proprietary technology which may improve the efficiency of anti-sense reagents potentially applicable to a broad spectrum of diseases. A patent for this technology issued in 1999. The capability has recently been computerized, which will be contained in a related patent continuation-in-part.

Production of Telomerase. We have acquired an exclusive license from the Research & Development Institute at Montana State University for rights to a fungus that produces Telomerase, the so-called "immortality enzyme," which is also expressed in most human cancers. Telomerase is a protein that builds up in telomerese, the repeated sequence of DNA that caps and seals the ends of chromosomes, protecting them from damage. While in most cells the gene that makes Telomerase shuts down, cancer cells reactivate that gene and begin multiplying uncontrollably. Based on work at several university laboratories, Telomerase has been implicated in most human malignancies and germ cell lines. Identified as the body's "immortality chemical," researchers have also examined Telomerase for potential use in treating degenerative diseases associated with aging, founded on the premise of endlessly dividing cells. Our goal is to produce Telomerase commercially through fermentation, compensating for the

enzyme's low availability from other sources, for use as a potential diagnostic test for cancer and for the development of drugs that inhibit Telomerase, which could stop cancer cells from proliferating.

TNF-PEG: Broad Range Anti-cancer Drug Program. TNF is a natural immune protein made by human cells. It has been found to kill a high percentage of different cancer cells in vitro compared to normal cells and is one of the most potent anti-cancer agents tested in animals. We have acquired technology and analogs which were developed at Wadley utilizing a genetically engineered bacteria and developed further by Lymphokine Partners Limited, a partnership set up by an affiliate of Wadley and Phillips Petroleum Company. Phase I and II human clinical trials were performed at Wadley using 23 patients with different kinds of cancer. These studies showed no therapeutic benefits from TNF in humans because of the high toxicity of TNF at therapeutic doses and its relatively short half life.

Pursuant to our research collaboration with Enzon, Inc., we are developing an anti-cancer agent combining our TNF technology with Enzon's patented polyethylene glycol, "PEG," technology. The technology process involves chemically attaching PEG, a relatively non-reactive and non-toxic polymer, to proteins and certain other biopharmaceuticals for the purpose of enhancing their therapeutic value. Attachment of PEG helps to disguise the proteins and to reduce their recognition by the immune system, thereby generally lowering potential immunogenicity. Both the increased molecular size and lower immunogenicity result in extended circulating blood life, in some cases from minutes to days. The PEG technology is a proven technology covered by patents held by

Enzon. To our knowledge, Enzon has two products on the market using PEG, PEG-adenosine deaminase, for treatment of the immune deficiency disease know as the "bubble boy" syndrome, and PEG-Asparaginase, a cancer chemotherapeutic drug. In preliminary animal studies at Sloan-Kettering Institute for Cancer Research, a TNF-PEG construct has been tested in an animal cancer model system and was shown to kill tumors with possibly reduced toxicity. The results of these studies will be confirmed and expanded and, if the TNF-PEG does result in longer half life and reduced toxicity, an investigational new drug application for clinical trials is expected to be submitted by either us or Enzon. There can, however, be no assurance that similar results will be found in humans. Our agreement with Enzon also involves directing TNF-PEG to human cancers using Enzon's proprietary single chain antibodies.

The Enzon Agreement involves equal sharing of revenue from sales of TNF-PEG if both parties contribute equally to its development, which is our current intention. There can, however, be no assurance that we will have the financial resources to meet such obligations. The Enzon Agreement also specifies that Enzon will work with only us on the construction of TNF-PEG, unless we consent to Enzon working with a third party.

IL-T: Prevention of Radiation and Chemotherapy Damage Program. This program involves a novel protein called IL-T. The Wadley/Phillips Partnership and we constructed IL-T through genetic engineering by fusing together parts of two human immune proteins, Interleukin and TNF. We are testing various combinations of human immune proteins for improved protection against radiation and chemotherapy damage. The IL-T protein has been tested in animal studies for protection against radiation damage at Sloan-Kettering and these studies are expected to continue. Following animal studies confirmation of protection against radiation damage could potentially lead to filing an investigational new drug application with the FDA followed by Phase I clinical trials. Products proprietary to others have shown protection against radiation damage and to potentiate weakened immune cells. We have filed a patent application for IL-T.

IL-P Anti-Leukemic Product Program. Through our joint venture with Pestka Biomedical Laboratories, Inc., we are participating in the development of a novel anti-leukemic drug known as "IL-P." This research and development involves the application of certain technology developed at Pestka and licensed to the joint venture. Various constructs of IL-P have been tested at Pestka, and we expect to provide additional funding to the joint venture for the continuation of such tests.

For the fiscal years ended December 31, 1998 and 1997, we incurred

$1,692,000 and $1,469,000, respectively, of research and development expenses.

COLLABORATIVE AGREEMENTS

BRISTOL-MYERS SQUIBB

In June 1998, we entered into a license agreement and a research and development agreement with Bristol- Myers Squibb. Pursuant to the license agreement, we granted Bristol-Myers Squibb exclusive world-wide sublicenses under our agreements with the Research & Development Institute at Montana State University and the Washington State University Research Foundation. Bristol-Myers Squibb has the world-wide exclusive right to utilize the technology licensed to us by the Research & Development Institute at Montana State University to produce, have made and/or sell Paclitaxel, which is to be commercialized as Taxol(R), and other taxanes and compounds, although no assurances can be given. Also pursuant to the license agreement, Bristol-Myers Squibb has the world-wide exclusive right to practice the technology licensed to us by the Washington State University Research Foundation to make, have made, use, lease and sell the products covered in our agreement with The Washington State University Research Foundation, although no assurances can be given. The term of the license agreement runs, subject to earlier termination in certain circumstances, as to each product in each country of the territory until the later of ten (10) years from the first commercial sale of a product or such time as the making, use or sale at the time by Bristol-Myers Squibb, its affiliates or sublicensees in such country of such product would not infringe any U.S. or foreign patents or patent applications.

Bristol-Myers Squibb has the right to terminate the license agreement, effective upon 90 days notice, in which event the sublicenses would also terminate. However, any payment obligations of Bristol-Myers Squibb to us would survive such termination.

In addition, pursuant to our license agreement with Bristol-Myers Squibb, Bristol-Myers Squibb has the right of first negotiation during the term of the license agreement to obtain from us an exclusive, world-wide right to license or sublease to all or a part of any technology involving Taxol(R) or natural products for anti-cancer treatment from microorganisms. The license agreement provides for royalty and milestone payments.

The research and development agreement between us and Bristol-Myers Squibb is renewable by Bristol- Myers Squibb for successive one-year periods provided that the license agreement remains in effect at the time, contemplates a program directed toward developing technologies for the production of Paclitaxel and other taxanes and potentially new anti-cancer products from microorganisms.

WADTECH

In October 1991, we entered into a purchase agreement with WadTech whereby we acquired certain of WadTech's right, title and interest in and to technology. The technology includes, but is not limited to, technology related to proteins, a novel interferon, and select melanoma, ovarian, breast, colon and lung cancer monoclonal antibodies.

Pursuant to our agreement with WadTech, we have agreed to pay WadTech the sum of $1,250,000, to be earned out of royalties; to assume WadTech's obligations under a license agreement to pay royalties of up to 3.75% on products produced using recombinant yeast expression system; and to pay to WadTech minimum annual royalties of $125,000. Our agreement with WadTech provides that the royalties and other sums payable by us to WadTech are at a higher rate until the original $1,250,000 has been paid in full. The term of our agreement with WadTech is for 99 years but may be terminated earlier by WadTech if we fail to cure a default or if we breach any material term or condition of the agreement.

In order to secure our obligation to pay the original fee of $1,250,000 to WadTech, we entered into a security agreement with WadTech pursuant to which WadTech retains a security interest in all of the technology. The security agreement also provides that in the event of a default, WadTech has the right to license or sell the technology to a third party.

THE RESEARCH & DEVELOPMENT INSTITUTE AT MONTANA STATE UNIVERSITY

In June 1993, we entered a license agreement with the Research & Development Institute, a non-profit entity which manages the intellectual property of Montana State University. Pursuant to this agreement, we were granted worldwide exclusive rights to microbial technology to produce Paclitaxel. We are obligated to pay the Research & Development Institute royalties on sales of products using the technology and a percentage of royalties paid to us by sublicensees of the technology. We have also agreed to pay the Research & Development Institute $100,000 each year the license is retained. In 1994, we granted stock options to the Research & Development Institute to purchase up to 20,000 shares of our common stock at $2.50 per share exercisable over four years, all of which are currently exercisable.

Also in June 1993, we and the Research & Development Institute at Montana State University entered into a research and development agreement. The agreement provides for the Research & Development Institute to perform research and development activities at Montana State University relating to Paclitaxel production. Pursuant to the agreement, we agreed to pay four annual payments of $250,000. In 1998, we and the Research & Development Institute agreed to renew the research and development agreement for one year. To date, we have paid a total of $1,637,000 under the license and research and development agreements with the Research & Development Institute. In February 1995, we amended the license and research and development agreements to include

technology developed and to be developed by Dr. Gary Strobel, Dr. Andrea Stierle and Dr. Donald Stierle. These additional technologies could include, but are not limited to, anti-cancer, anti-viral, anti-fungal or any other activities which could result in any commercial products. In May 1998, the license agreement was amended to require us to pay a percentage of all milestone and royalty payments we received under our sublicenses with Bristol- Myers Squibb.

In February 1995, we entered into a license agreement with the Research & Development Institute at Montana State University. Pursuant to this agreement, we were granted worldwide exclusive rights to exercise all intellectual property rights relating to a fungal strain identified as "FTS-2" relating to breast cancer. In October 1995, we entered into a license agreement with the Research & Development Institute at Montana State University where we were granted worldwide exclusive rights to exercise all intellectual property rights relating to a fungal strain identified as "Tbp-5" also relating to breast cancer. Pursuant to the FTS-2 license agreement and the Tbp-5 license agreement, we have agreed to pay the Research & Development Institute royalties on sales of products or services using the intellectual property and a percentage of royalties paid to us by sublicensees using the intellectual property rights.

In December 1998, we obtained an exclusive license to technology for the fungal production of Telomerase, the so-called "immortality enzyme," from the Research & Development Institute at Montana State University.

In March 1999, a broad patent was issued for the production of Paclitaxel utilizing the technology licensed to Cytoclonal Pharmaceutics Inc. pursuant to our agreement with the Research & Development Institute.

THE UNIVERSITY OF CALIFORNIA AT LOS ANGELES

In February 1996, we entered into two license agreements with UCLA:

(i) the first for exclusive rights to a pending patent entitled, "Inhibition of Cyst Formation By Cytoskeletal Specific Drugs," that makes use of various drugs, one of which is Paclitaxel; and

(ii) the second for exclusive rights to technology in the field of pharmacological treatment for Polycystic Kidney Disease.

Pursuant to our first license agreement with UCLA, we paid a fee of $5,000 and have agreed to pay UCLA $10,000 upon issuance of a patent.

Pursuant to our second license agreement with UCLA, we paid a fee of

$5,000 and have agreed to pay UCLA $5,000 upon issuance of a patent. We are obligated to pay a yearly license maintenance fee on both licenses until we commercially sell products based upon the licensed technologies.

In August 1998, we entered into a third exclusive world-wide license agreement with UCLA for any domestic and foreign patents and patents pending based upon and including any subject matter claimed in or covered by a U.S. patent pending entitled, "Peptide Antiestrogen Compositions and Methods for Treating Breast Cancer." We have the exclusive right to make, use, sell, offer for sale and import certain products involving the patent and to conduct any process or method covered by the patent. Also, we may grant sublicenses to third parties to make, use, sell, offer for sale and import products using the patent, provided we retain exclusive rights thereto under the agreement. The agreement requires us to pay up-front, royalty, milestone, annual and quarterly payments. The term of the agreement ends upon the termination or cancellation of the last patent covered by the patent application, subject to earlier termination by UCLA if we fail to perform certain studies and clinical trials by certain dates or to timely cure any defaults.

ENZON

In July 1992, Enzon and we entered into a collaborative research and development agreement to develop an anti-cancer agent by combining our TNF technology with Enzon's PEG technology. Pursuant to this agreement, each party agreed to fund its own development costs associated with the initial stage, roughly the first year of the program. The agreement provides that if both parties agree to continue the program jointly, each party shall share equally in the cost of such research and development and the profits therefrom. If one party decides not to proceed or is unable to share jointly, the continuing party will receive exclusive worldwide licenses in the technology of the other party and will pay the other party royalties. The term of the agreement is 15 years for each product developed under the program from the date of FDA approval to market such product. Enzon and we also entered into a similar agreement in March 1992 relating to combining various target proteins to be developed by us with Enzon's technology pursuant to which Enzon funded certain of our initial research and development activities thereunder.

SLOAN-KETTERING

Pursuant to a research agreement, dated April 1994, between us and Sloan-Kettering, Sloan-Kettering has agreed to evaluate the IL-T fusion protein to determine whether such protein protects mice against radiation and chemotherapy. In connection with such activities, Sloan-Kettering has agreed to provide all necessary personnel, equipment supplies and facilities for a budget not to exceed $35,000. Inventions resulting from Sloan-Kettering's research which were not contemplated by the parties, if any, will be the property of Sloan-Kettering. However, Sloan-Kettering must grant us the right of first refusal to acquire a world-wide exclusive license to develop and commercialize any such invention upon mutually agreeable terms. The term of the agreement is through completion of the evaluation.

CYTOMUNE

Cytomune, Inc. is a 50/50 joint venture between us and Pestka Biomedical Laboratories, Inc. A novel anti- leukemic drug called "IL-P" is in development utilizing proprietary technology developed by Dr. Sidney Pestka. The objective of the joint venture is to develop IL-P for the diagnosis and treatment of leukemia. We contributed $233,000 and certain technology and Pestka contributed exclusive rights to phosphorylation technology as applied to Interleukin-2. Pestka has performed research and development for Cytomune relating to IL-P using this technology. Additional funding is not required but, if provided, will permit such research and development to continue.

UNIVERSITY OF TEXAS AT DALLAS

In June 1992, we entered into an agreement with the University of Texas at Dallas, which has been amended, pursuant to which the University is to perform certain research and development activities relating to anti- sense compounds and related technology for use in humans. Pursuant to the agreement, the University provides all necessary personnel, equipment supplies and

facilities in consideration for an amended budget not to exceed $347,712. Inventions under the agreement, if any, will be the property of the University. However, the University must grant us the right of first refusal to acquire a license to develop and commercialize any intellectual property resulting from the agreement for a royalty not to exceed 8% of the net sales of any commercialized products. The agreement has been extended through August 1999 in consideration for our agreement to increase the original funding commitment to $347,712 of which we have paid in the amount of $293,132 as of March 31, 1999.

In June 1996, we entered into a patent license agreement with the board of regents of the University of Texas whereby we have an exclusive royalty-bearing license to manufacture, have manufactured, use, sell and sublicense products related to a U.S. patent application entitled, "A Method for Ranking Sequences to Select Target Sequence Zones of Nucleus Acids." The technology has identified optimum regions within genes to bind anti- sense products. Anti-sense products are under development to control genes involved in human diseases such as cancer, diabetes, or AIDS. This discovery potentially has broad applications to many human and viral genes involved in human disease. We are required to pay royalty and sublicensing fees. The agreement expires on the

later of 20 years or the expiration of patent rights. However, the agreement will terminate automatically if we fail to make all required payments or to timely cure any default.

HELM AG

We entered into a marketing agreement, effective in November 1994, with Helm AG, a world-wide distributor of pharmaceutical and related products, whereby we granted Helm AG the right, in certain parts of Europe, to market our technology and products and to arrange business introductions for us on a commission basis. The agreement may be terminated by either party upon six months' notice. To date, we do not have any products available for distribution, and no revenues have been derived from this agreement. There can be no assurance that any revenues will be derived from this agreement in the future.

THE WASHINGTON STATE UNIVERSITY RESEARCH FOUNDATION

In July 1996, we entered into an agreement with the Washington State University Research Foundation whereby we received an exclusive, world-wide license to use or sublicense the foundation's technology. We are required to pay the foundation license fees of $7,500 per year as well as certain royalties and sublicensing fees. The agreement shall be in full force and effect until the last of the patents licensed under the technology expires. However, we may terminate the agreement on 90 days' notice, provided that all amounts due to the foundation are paid. The Washington State University Research Foundation may terminate the agreement immediately if we cease to carry on its business or within 90 days' notice upon an event of default or if we breach the agreement. In connection with this agreement, we granted the foundation warrants to purchase 36,000 shares of our common stock at $4.25 per share. Such warrants vest annually in 12,000 increments, commencing July 1999 and expiring July 2002. In June 1998, we and the foundation amended our agreement to cover additional patents and patent applications which are expected to be filed in the future and to grant us an option, expiring July 2006, to license any prospective technology as it is developed. There can be no assurance that we will derive any revenues from this agreement.

PATENTS, LICENSES AND PROPRIETARY RIGHTS

We own and have rights to a number of patents and patent applications. In 1991, we entered into an agreement with WadTech, whereby we were assigned two issued U.S. patents expiring in 2006 and 2007, respectively, three pending U.S. patent applications and six pending foreign patent applications held by WadTech. Our U.S. patent for the lung cancer gene issued in December 1996. A patent for the lung cancer gene marker issued in June 1998.

Pursuant to our agreement with the Research & Development Institute at Montana State University, we were granted an exclusive license to the technology contained in the Paclitaxel fermentation production system, including one issued U.S. patent, one U.S. patent application with allowed claims and foreign patent applications.

Pursuant to our agreement with the University of Texas at Dallas, we have the right of first refusal to acquire a license to develop and commercialize products using anti-sense technology covered by a patent issued to the University in 1999.

Pursuant to our first agreement with UCLA, we have an exclusive license to technology involving a patent entitled, "Inhibition of Cyst Formation By Cytoskeletal Specific Drugs," and related patents of which claims have been allowed by the U.S. Patent and Trademark Office in August 1997. Pursuant to our third agreement with UCLA, we have an exclusive, world-wide license to technology involving a U.S. patent pending entitled, "Peptide Antiestrogen Compositions and Methods for Treating Breast Cancer."

In connection with our employment of Dr. Dorit Arad in January 1999, we were assigned patent applications for technology including "Pharmaceutical Preparation Which Compromises Inhibitors of Cysteine Protease," "Modulators of Cysteine Protease," "Novel Antiviral Compounds," and "Cysteine Protease Inhibitors."

In March 1999, a broad patent issued for the production of Paclitaxel by microorganisms isolated from the slow growing Pacific yew tree utilizing the technology licensed to us pursuant to our agreement with the Research & Development Institute at Montana State University.

Our policy is to protect our technology by, among other things, filing patent applications for technology it considers important in the development of its business. In addition to filing patent applications in the United States, we have filed and intend to file, patent applications in foreign countries on a selective basis. We have filed patent applications relating to our IL-T and lung cancer gene technologies and are preparing to file additional patent applications, relating primarily to technologies for vaccines and Paclitaxel production. Although a patent has a statutory presumption of validity in the United States, the issuance of a patent is not conclusive as to such validity or as to the enforceable scope of the claims of the patent. There can be no assurance that our issued patents or any patents subsequently issued to us or licensed by us will not be successfully challenged in the future. The validity or enforceability of a patent after its issuance by the Patent and Trademark Office can be challenged in litigation. If the outcome of the litigation is adverse to the owner of the patent, third parties may then be able to use the invention covered by the patent, in some cases without payment. There can be no assurance that patents in which we have rights will not be infringed or successfully avoided through design innovation.

There can be no assurance that patent applications owned by us or licensed to us will result in patents being issued or that the patents will afford protection against competitors with similar technology. It is also possible that third parties may obtain patent or other proprietary rights that may be needed by us. In cases where third parties are first to invent a particular product or technology, it is possible that those parties will obtain patents that will be sufficiently broad so as to prevent us from using certain technology or from further developing or commercializing certain products. If licenses from third parties are necessary but cannot be obtained, commercialization of the related products would be delayed or prevented. We are aware of patent applications and issued patents belonging to competitors but we are uncertain whether any of these, or patent applications filed of which we may not have any knowledge, will require us to alter our potential products or processes, pay licensing fees or cease certain activities.

We also rely on unpatented technology as well as trade secrets and information. No assurance can be given that others will not independently develop substantially equivalent information and techniques or otherwise gain access to our technology or disclose such technology, or that we can effectively protect our rights in such unpatented technology, trade secrets and information. We require each of our employees to execute a confidentiality agreement at the commencement of their employment with us. The agreements generally provide that all inventions conceived by the individual in the course of employment or in the providing of services to us and all confidential information developed by, or made known to, the individual during the term of the relationship shall be our exclusive property and shall be kept confidential and not disclosed to third

parties except in limited specified circumstances. There can be no assurance, however, that these agreements will provide us with meaningful protection in the event of unauthorized use or disclosure of such confidential information.

COMPETITION

All of our proposed products will face competition from existing therapies. The development by others of novel treatment methods for those indications for which we are developing compounds could render our compounds non-competitive or obsolete. This competition potentially includes all of the pharmaceutical concerns in the world that are developing pharmaceuticals for the diagnosis and treatment of cancer. Competition in pharmaceuticals is generally based on performance characteristics as well as price and timing of market introduction of competitive products. Acceptance by hospitals, physicians and patients is crucial to the success of a product. Price competition may become increasingly important as a result of an increased focus by insurers and regulators on the containment

of health care costs. In addition, the various federal and state agencies have enacted regulations requiring rebates of a portion of the purchase price of many pharmaceutical products.

Most of our existing or potential competitors have substantially greater financial, technical and human resources than us and may be better equipped to develop, manufacture and market products. In addition, many of these companies have extensive experience in pre-clinical testing, human clinical trials and the regulatory approval process. These companies may develop and introduce products and processes competitive with or superior to ours.

Our competition also will be determined in part by the potential indications for which our compounds are developed. For certain potential products, an important factor in competition may be the timing of market introduction of its own or competitive products. Accordingly, the relative speed with which we can develop products, complete the clinical trials and regulatory approval processes and supply commercial quantities of the products to the market are expected to be important competitive factors. We expect that competition among products approved for sale will be based on, among other things, product efficacy, safety, reliability, availability, price and patent position.

Our competitive position also depends upon our ability to attract and retain qualified personnel, obtain patent protection or otherwise develop proprietary products or processes and secure sufficient capital resources for the often lengthy period between technological conception and commercial sales.

GOVERNMENT REGULATION

The production and marketing of our products and our research and development activities are subject to regulation for safety and efficacy by numerous governmental authorities in the United States and other countries. In the United States, drugs and pharmaceutical products are subject to rigorous review by the Food & Drug Administration. The Federal Food, Drug, and Cosmetic Act; the Public Health Service Act and other federal statutes and regulations govern or influence the testing, manufacture, safety, labeling, storage, record keeping, approval, advertising and promotion of such products. Non-compliance with applicable requirements can result in fines, recall or seizure of products, total or partial suspension of production, refusal of the government to approve product license applications or allow us to enter into supply contracts and criminal prosecution. The FDA also has the authority to revoke product licenses and establishment licenses previously granted.

In order to obtain approval of a new product from the Food & Drug Administration, we must submit proof of safety, purity, potency and efficacy. In most cases, such proof entails extensive pre-clinical, clinical and laboratory tests. The testing preparation of necessary applications and processing of those applications by the FDA is expensive and may take several years to complete. There is no assurance that the FDA will act favorably or quickly in making such reviews, and significant difficulties or costs may be encountered by us in our efforts to obtain FDA approvals that could delay or preclude us from marketing any products it may develop. The FDA may also require post-marketing testing and

surveillance to monitor the effects of approved products or place conditions on any approvals that could restrict the commercial applications of such products. Product approvals may be withdrawn if compliance with regulatory standards is not maintained or if problems occur following initial marketing. With respect to patented products or technologies, delays imposed by the governmental approval process may materially reduce the period during which we will have the exclusive right to exploit them.

The time period between when a promising new compound is identified and when human testing is initiated is generally referred to as the pre-clinical development period. During this time, a manufacturing process is identified and developed to be capable of producing the compound in an adequately pure and well characterized form for human use. Production of compounds for use in humans is governed by a series of FDA regulations known as "Good Manufacturing Practices," which govern all aspects of the manufacturing process. The FDA has published a "Points to Consider" guidance document with respect to the manufacturing of monoclonal antibodies for human use.

The FDA approval process for a new and unfamiliar term or drug involves completion of pre-clinical studies and the submission of the results of these studies to the FDA in an investigational new drug application. Pre-clinical studies involve laboratory evaluation of product characteristics and animal studies to assess the efficacy and safety of the product. Pre-clinical studies are regulated by the FDA under a series of regulations called the "Good Laboratory Practices" regulations. Violations of these regulations can, in some cases, lead to invalidation of the studies, requiring those studies to be replicated.

Once the investigational new drug is approved, human clinical trials may be conducted. Human clinical trials are typically conducted in three sequential phases, but the phases may overlap. Phase I trials consist of testing the product in a small number of volunteers, primarily for safety at one or more doses. In Phase II, in addition to safety, the efficacy of the product is evaluated in a patient population somewhat larger than Phase I trials. Phase III trials typically involve additional testing for safety and clinical efficacy in an expanded population at geographically dispersed test sites. A clinical plan, or "protocol," accompanied by the approval of the institution participating in the trials, must be submitted to the FDA prior to commencement of each clinical trial. The FDA may order the temporary or permanent discontinuation of a clinical trial at any time.

To date, an investigational new drug application was submitted for the lung cancer monoclonal antibody clinical trials at Wadley. We intend to file an investigational new drug application for a humanized form of the lung cancer monoclonal antibody followed by clinical trials. The results of the pre-clinical and clinical testing are submitted to the FDA in the form of a new drug application or, in the case of a biologic, such as lung cancer monoclonal antibody and other monoclonal antibodies, as part of a product license application. In a process which generally takes several years, the FDA reviews this application and, when or if it decides that adequate data is available to show that the new compound is both safe and effective, approves the drug or biologic product for marketing. The amount of time taken for this approval process is a function of a number of variables including the quality of the submission and studies presented, the potential contribution that the compound will make in improving the treatment of the disease in question and the workload at the FDA. There can be no assurance that any new drug will successfully proceed through this approval process or that it will be approved in any specific period of time.

The FDA may, during its review of a new drug application, ask for the production of additional test data. If the FDA does ultimately approve the product, it may require post-marketing testing, including potentially expensive Phase IV studies, and surveillance to monitor the safety and effectiveness of the drug. In addition, the FDA may in some circumstances impose restrictions on the use of the drug that may be difficult and expensive to administer and may seek to require prior approval of promotional materials.

The manufacturing of a biologic product must be in a facility covered by the Food & Drug Administration- approved Establishment License Application. The manufacture, holding, and distribution of both biologic and non- biologic

drugs must be in compliance with GMPs. Manufacturers must continue to expend time, money, and effort in the area of production and quality control and record keeping and reporting to ensure full compliance with those requirements. The labeling, advertising, and promotion of a drug or biologic product must be in compliance with FDA regulatory requirements. Failures to comply with applicable requirements relating to manufacture, distribution, or promotion can lead to the Food & Drug Administration demanding that production and shipment cease, and, in some cases, that products be recalled, or to enforcement actions that can include seizures, injunctions, and criminal prosecution. Such failures can also lead to the Food & Drug Administration withdrawal of approval to market the product.

The FDA may designate a biologic or drug as an "Orphan Drug" for a particular use, in which event the developer of the biologic or drug may request grants from the government to defray the costs of certain expenses related to the clinical testing of such drug and be entitled to a seven year marketing exclusivity period.

Our ability to successfully commercialize our products may depend on the extent to which reimbursement for the cost of such products and related treatment will be available from government health administration

authorities, private health insurers and other organizations. Such third-party payers are increasingly challenging the price of medical products and services. Several proposals have been made that may lead to a government-directed national health care system. Adoption of such a system could further limit reimbursement for medical products and services. Significant uncertainty exists as to the reimbursement status of newly approved health care products, and there can be no assurance that adequate third-party coverage will be available to enable us to maintain price levels sufficient to realize an appropriate return on this investment in product development.

We are also subject to regulation by the Occupational Safety and Health Administration and the Environmental Protection Agency and to regulation under the Toxic Substances Control Act, the Resource Conservation and Recovery Act and other regulatory statutes, and may in the future be subject to other federal, state or local regulations. Either or both of OSHA or the EPA may promulgate regulations that may affect our research and development programs. We are unable to predict whether any agency will adopt any regulation which could have a material adverse effect on our operations.

Sales of pharmaceutical products outside the United States are subject to foreign regulatory requirements that vary widely from country to country. Whether or not the Food & Drug Administration 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 the Food & Drug Administration approval.

MANUFACTURING AND MARKETING

Neither we nor any of our officers or employees has pharmaceutical marketing experience. Furthermore, we have never manufactured or marketed any products and we do not have the resources to manufacture any products on a commercial scale. Our long-term objective is to manufacture and market certain of our products and to rely upon independent third parties for the manufacture of certain of our other products. For the foreseeable future, we will be required to rely upon corporate partners or others to manufacture or market our products. No assurance can be given that will be able to enter into any such arrangements on such acceptable terms, if at all.

Manufacturing. While we intend to select manufacturers that comply with regulatory standards, there can be no assurance that these manufacturers will comply with such standards, that they will give our orders the highest priority or that we will be able to find substitute manufacturers, if necessary, if our selected manufacturers prove to be unsatisfactory. In order for us to establish a manufacturing facility, we will require substantial additional funds and will be required to hire and retain significant additional personnel and comply with the extensive regulations of the FDA applicable to such a facility. No assurance can be given that we will be able to make the transition successfully to

commercial production, should it choose to do so.

Marketing. Despite our strategy to develop products for sale to concentrated markets, significant additional expenditures and management resources will be required to develop an internal sales force, and there can be no assurance that we will be successful in penetrating the markets for any products developed. For certain products under development, we may seek to enter into development and marketing agreements which grant exclusive marketing rights to our corporate partners in return for royalties to be received on sales, if any. Under certain agreements, our marketing partner may have the responsibility for all or a significant portion of the development and regulatory approval. In the event that our marketing and development partners fail to develop a marketable product or to successfully market a product, our business may be materially adversely affected. The sale of certain products outside the United States will also be dependent on the successful completion of arrangements with future partners, licensees or distributors in each territory. There can be no assurance that we will be successful in establishing any additional collaborative arrangements, or that, if established, such future partners will be successful in commercializing products.

PRODUCT LIABILITY INSURANCE

The testing, marketing and sale of human health care products entail an inherent risk of allegations of product liability, and there can be no assurance that product liability claims will not be asserted against us. We intend to obtain product liability insurance for our ongoing clinical trials. Such coverage may not be adequate as and when we develop our products. There can be no assurance that we will be able to obtain, maintain or increase its insurance coverage in the future on acceptable terms or that any claims against us will not exceed the amount of such coverage.

HUMAN RESOURCES

As of July 6, 1999, we had 19 full-time employees, 15 of whom were engaged directly in research and development activities, including eight Ph.D.s, and four of whom were in executive and administrative positions. Our employees are not governed by any collective bargaining agreement, and we believe that our relationship with our employees is good.

PROPERTY

We occupy an aggregate of approximately 21,400 square feet of both office and laboratory space in Dallas, Texas at two separate facilities. We lease approximately 4,800 square feet of office and laboratory space pursuant to a lease agreement expiring in August 1999. In addition, we occupy an additional approximate 16,600 square feet of office and laboratory space, including approximately 11,000 square feet added in 1999, pursuant to a lease assigned to us by the Wadley/Phillips Partnership and which lease term has been extended until December 2000. Our lease payments for the fiscal year ended December 31, 1998 were approximately $142,000. We believe that its current facilities are suitable for our present needs.

LEGAL PROCEEDINGS

As of the date hereto, we are not a party to any material legal proceedings.

MANAGEMENT

EXECUTIVE OFFICERS, DIRECTORS AND PRINCIPAL SCIENTISTS

The following persons serve as our executive officers, directors and principal scientists:

Name:	Age:	Position:
Arthur P. Bollon, Ph.D.	56	Chairman of the Board of Directors, President, Chief Executive Officer and Member of the Audit Committee of the Board of Directors
Ira J. Gelb, M.D.	71	Director and Member of the Audit Committee and Compensation Committee of the Board of Directors
Irwin C. Gerson	69	Director and Member of the Audit Committee and Compensation Committee of the Board of Directors
Walter M. Lovenberg, Ph.D.	64	Director and Member of the Compensation Committee of the Board of Directors
Gary E. Frashier	63	Director
Daniel Shusterman, J.D.	35	Vice President of Operations, Treasurer and Chief Financial Officer
Dorit Arad, Ph.D.	39	Vice President of Drug Design
Susan L. Berent, Ph.D.	46	Director of Gene & Protein Engineering and Information Systems, Co-Director Molecular Immunology and Gene Expression Systems
Hakim Labidi, Ph.D.	41	Director of Vaccine Program
Rajinder Singh Sidhu, Ph.D.	50	Director of Fungal Paclitaxel Program, Co-Director of Gene Expression Systems
Richard M. Torczynski, Ph.D.	43	Director of Human Gene Discover, Mammalian Expression system and Diagnostic Development, Co-Director of Molecular Immunology

Arthur P. Bollon, Ph.D., a founder of the Company, has since the Company's inception in 1991 served as the Company's Chairman of the Board of Directors, President, Chief Executive Officer and, until March 1995, Treasurer. Dr. Bollon received his Ph.D. from the Institute of Microbiology at Rutgers University and was a Post Doctoral Fellow at Yale University. Dr. Bollon has served as consultant to a number of major companies, including Merck, Sharp & Dohme and Diamond, Shamrock, and has served on the Board of Directors and Advisory Boards of several biotechnology companies, including Viragen, Inc., Wadley Biosciences Corp. and American Bio-netics, Inc. From 1987 to 1991, Dr. Bollon served as President and Chief Executive Officer of the Wadley/Phillips Partnership. Prior to that time, he was Director of Genetic Engineering and Chairman of the Department of Molecular Genetics at the Wadley Institutes of Molecular Medicine. In his capacities at the Wadley/Phillips Partnership and Wadley Institutes, Dr. Bollon played a leading role in bringing the technology that forms the basis of the Company from conception to reality.

Ira J. Gelb, M.D. has been a director of the Company since April 1994. Dr. Gelb received his M.D. from New York University School of Medicine in 1951. After finishing his training in cardiology at the Mount Sinai Hospital in New York City in 1957, Dr. Gelb continued his association with that institution until his retirement in 1992. During this period, he was appointed Attending Cardiologist and Associate Clinical Professor at the Mount Sinai School of Medicine. Other appointments included Adjunct Associate Clinical Professor of Cardiology at

Cornell Medical School, Adjunct Clinical Professor of Cardiology at New York Medical College, Cardiology Consultant at Lawrence Hospital, Bronxville, N.Y. and United Hospital, Portchester, N.Y. Dr. Gelb is a former President of the American Heart Association, Westchester-Putnam Chapter, and was a Senior Assistant Editor with the American Journal of Cardiology from 1968 to 1983, when he became a founding editor of the Journal of the American College of Cardiology, the "JACC". Dr. Gelb continued as a Senior Assistant Editor of JACC until his retirement in 1992. Since that time, he has served on the boards of various pharmaceutical companies. Since 1992, Dr. Gelb has been an Honorary

Lecturer at The Mount Sinai School of Medicine. Dr. Gelb has also served as the Clinical Coordinator of Biomedical Programs and Professor of Chemistry & Biochemistry at Florida Atlantic University, "FAU," since 1998, an Adjunct Professor and a member of FAU's Foundation Board since October 1996 and FAU's Steering Committee since 1997. Dr. Gelb has served as a member of the Board of Directors of the American Heart Association, Boca Raton Division since December 1996 and was appointed President in June 1999. In 1998, Boca Raton Community Hospital added Dr. Gelb as a member to its Foundation Board. In November 1998, Dr Gelb was appointed Voluntary Professor of Medicine at the University of Miami School of Medicine.

Irwin C. Gerson has been a director of the Company since March 1995. Since January 1998, Mr. Gerson has served as Chairman Emeritus of Lowe McAdams Healthcare. From 1995 until December 1997, Mr. Gerson served as Chairman of Lowe McAdams Healthcare and prior thereto had been, since 1986, Chairman and Chief Executive Officer of William Douglas McAdams, Inc., one of the largest advertising agencies in the U.S. specializing in pharmaceutical communications to healthcare professionals. Mr. Gerson has a B.S. in Pharmacy from Fordham University and an MBA from the NYU Graduate School of Business Administration. He is a director of Andrx Corporation, a Nasdaq-listed public company. In 1992, Mr. Gerson received an honorary Doctor of Humane Letters from the Albany College of Pharmacy. Mr. Gerson serves as a Trustee of Long Island University, Chairman of The Council of Overseers-Arnold and Marie Schwartz College of Pharmacy, member of the Board of Trustees of the Albany College of Pharmacy and, from 1967 through 1974, was a lecturer on sales management pharmaceutical marketing at the Columbia College School of Pharmacy. Mr. Gerson also has served as a Member of the Board of Governors, New York Council, American Association of Advertising Agencies, a Director of Business Publications Audit, a Director of the Connecticut Grand Opera, and a Director of the Stamford Chamber Orchestra. Mr. Gerson previously served as a director of the foundation of Pharmacists and Corporate Americans for AIDS Education, the Pharmaceutical Advertising Council, Penn Dixie Industries, Continental Steel Corporation, the Nutrition Research Foundation and as a Trustee of the Chemotherapy Foundation.

Walter M. Lovenberg, Ph.D. has been a director of the Company since August 1995. From 1989 to 1993, Dr. Lovenberg served as Executive Vice President and member of the Board of Directors of Marion Merrell Dow Inc. Dr. Lovenberg also served as the President of the Marion Merrell Dow Research Institute from 1989 to 1993 and Vice President from 1986 through 1989. Prior to joining Marion Merrell Dow in 1958, Dr. Lovenberg was a Senior Scientist and Chief of Biochemical Pharmacology at the National Institutes of Health. Dr. Lovenberg has served President of Lovenberg Associates, Inc. since 1993. Since 1997, Dr. Lovenberg has served as Chief Executive Officer of Helicon Therapeutics Inc., a private company, and since 1992 and 1995, Dr. Lovenberg has served as a director of Xenometrix, Inc. and a director of Inflazyme Pharmaceutics, Ltd. (which is traded on the Toronto Exchange). Also, since 1994, Dr. Lovenberg has served as director of OSI Pharmaceuticals, Inc., a Nasdaq- listed public company. Dr. Lovenberg received a Ph.D. in Biochemistry from George Washington University in 1962 and a B.S. in Biochemistry and an M.S. in Agriculture from Rutgers University in 1958 and 1956, respectively. Dr. Lovenberg, who serves as Executive Editor of Analytical Biochemistry and Editor (USA) of Neurochemistry International, is a consulting editor to several other scientific journals. Dr. Lovenberg has been the recipient of many awards, including a Fulbright-Hays Senior Scholar Award and a Public Health Service Superior Service Award. Dr. Lovenberg is a member of the American College of Neuropsychopharmacology, the American Society of Neurochemistry and the American Society of Biochemistry and Molecular Biology.

Gary E. Frashier commenced serving as a director of the Company on June 28, 1999. Since December 1997, Mr. Frashier has served as Chairman of the Board of Directors of OSI Pharmaceuticals, Inc., "OSIP," a Nasdaq-listed public company engaged in the discovery and development of novel, small-molecule pharmaceutical products for commercialization by the pharmaceutical industry. Mr. Frashier was Chief Executive Officer of OSIP

from March 1990 until October 1998. From March 1994 to December 1997, Mr. Frashier also served as Vice Chairman of the Board of OSIP, and was President of OSIP from March 1990 to March 1994. From April 1987 to February 1990, Mr. Frashier served as the President, Chief Executive Officer and director of Genex

Corporation, a then publicly-traded biotechnology company specializing in protein engineering. From January 1984 to March 1987, Mr. Frashier served as Chairman and Chief Executive Officer of Continental Water Systems, Inc., a privately- held corporation. Mr. Frashier currently serves as a director of Anaderm Research Corp. and Helicon Therapeutics, Inc., both of which are privately-held companies. Mr. Frashier received his B.S. in chemical engineering from Texas Tech University in 1958 and M.S. in Management from MIT in 1970. Mr. Frashier also serves as a director of Atlantic Biopharmaceutics, Inc. a privately-held company.

Daniel Shusterman, J.D. was named our Vice President of Operations in 1994 and Treasurer and Chief Financial Officer in March 1995, after having served as our Director of Operations since he joined us in 1991. Mr. Shusterman received his M.S. degree with an emphasis on biotechnology from the University of Texas in 1988. He was Director of Operations at Wadley/Phillips Partnership for three years prior to joining us. Mr. Shusterman is a registered Patent Agent and received his J.D. from Texas Wesleyan University School of Law in 1993 and has been a member of the Texas bar since 1994. In addition to his role as a V.P. of Operations, Mr. Shusterman is contributing to our implementation of an intellectual property protection and maintenance system.

Dorit Arad, Ph.D. joined us as Vice President of Drug Design in January 1999. From 1996 until 1998, Dr. Arad served as Scientific Director at Saturi Medical Research LTD. From 1991 until 1993, Dr. Arad served as a consultant to Teva-Israel Pharmaceutical Industries. In addition, Dr. Arad has served as an instructor and lecturer at Technicon in Haifa, Israel and as a lecturer at the Tel-Aviv University. Dr. Arad is the co-author of a number of scientific articles and papers. Dr. Arad received her B.Sc., M.Sc. and D.Sc. Degrees in Chemistry from Technicon, Haifa, Israel.

Susan L. Berent. Ph.D. has been with us since 1991 as the Director of our Gene and Protein Engineering and Computer Systems. Dr. Berent received her Ph.D. in Biological Chemistry from the University of Michigan and completed a postdoctoral fellowship at the Department of Molecular Genetics, Wadley Institutes of Molecular Medicine. She was appointed to Senior Scientist at Wadley in 1984 and maintained that position in the Wadley/Phillips Partnership until she joined us. Dr. Berent is an expert in protein chemistry, DNA libraries, cytokines such as TNF, and production Systems.

Hakim Labidi Ph.D. has been with us since 1991 as the Director of our Vaccine Program. Dr. Labidi received his Ph.D. in Microbiology at the Pasteur Institute in Paris, France and has been one of our senior scientists since 1991. Prior to joining us, Dr. Labidi was a Senior Research Investigator and Assistant Professor at the University of Texas from 1987 to 1989 and an Associate Professor at Kuwait University from 1989 until 1991. Dr. Labidi was the first to isolate and sequence a plasmid from mycobacterium.

Rajinder Singh Sidhu. Ph.D. has been with us since 1991 as the Director of our Fungal Program and Co- Director of our Gene Expression Systems. Dr. Sidhu received his Ph.D. degree in Microbiology from Haryana Agricultural University in Hissar, India, and completed a postdoctoral fellowship at Osaka University in Japan. He was appointed to Senior Scientist at Wadley in 1984 and maintained that position in the Wadley/Phillips Partnership until he joined us. Dr. Sidhu is an expert on gene fusion and engineering, fungal genes and secretion, cytokines such as TNF, and production Systems.

Richard M. Torczynski, Ph.D. has been with us since 1991 as the Director of our Human Gene Discovery, Mammalian Expression System and Diagnostic Development programs, and Co-Director of our Molecular Immunology program. Dr. Torczynski received his Ph.D. degree in Biology from the University of Texas and completed his research fellowship under the direction of Dr. Arthur Bollon. He was appointed to Senior Scientist at Wadley in 1984 and maintained that position in Wadley/Phillips Partnership. Dr. Torczynski is an expert on certain specialized gene libraries, monoclonal antibodies and cytokines such as interferon.

Our Board of Directors currently consists of four members. All directors hold office until the next annual meeting of stockholders and until

their successors are duly elected and qualified. Officers are elected to serve, subject to the discretion of the Board of Directors, until their successors are appointed.

As of July 1, 1999, directors receive fees of $1,500 per month, or an annual fee of $18,000. Dr. Gelb has, to date, also received options to purchase 129,000 shares of common stock with exercise prices ranging from $2.69 to $5.00 per share. Mr. Gerson has, to date, received options to purchase 125,000 shares of common stock with exercise prices ranging from $2.69 to $5.00 per share. Dr. Lovenberg has, to date, received options to purchase 125,000 shares of common stock with exercise prices ranging from $2.69 to $5.00 per share. Mr. Frashier has, to date, received options to purchase 50,000 shares of common stock with an exercise price of $6.00 per share. See "Executive Compensation" for information regarding stock option grants to Dr. Bollon. Directors are also reimbursed for expenses actually incurred in connection with their attendance at meetings of the Board of Directors.
See "Security Ownership of Certain Beneficial Owners and Management."

Our Certificate of Incorporation includes certain provisions permitted pursuant to Delaware law whereby our officers and directors are to be indemnified against certain liabilities. Our Certificate of Incorporation also limits, to the fullest extent permitted by Delaware law, a director's liability for monetary damages for breach of fiduciary duty, including gross negligence, except liability for (i) breach of the director's duty of loyalty, (ii) acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law, (iii) the unlawful payment of a dividend or unlawful stock purchase or redemption and (iv) any transaction from which the director derives an improper personal benefit. Delaware law does not eliminate a director's duty of care and this provision has no effect on the availability of equitable remedies such as injunction or rescission based upon a director's breach of the duty of care. In addition, we have obtained an insurance policy providing coverage for certain liabilities of its officers and directors.

We have been advised that it is the position of the SEC that insofar as the foregoing provision may be invoked to disclaim liability for damages arising under the Securities Act, such provision is against public policy as expressed in the Securities Act and is therefore unenforceable.

SCIENTIFIC ADVISORS/CONSULTANTS

Our Scientific Advisory Board currently consists of individuals having extensive experience in the fields of molecular genetics, chemistry, oncology and microbiology. At our request, the scientific advisors review and evaluate our research programs and advise us with respect to technical matters in fields in which we are involved.

The following table sets forth the name and current position of each scientific advisor:

NAME	POSITION
Yitzhak Apeloig, Ph.D.	Professor, Department of Chemistry at the Technion-Israel Institute of Technology
Hugo David, M.D., Ph.D.	Consultant, New University of Lisbon, Institute of Hygiene and Topical Medicine
Donald M. Gray, Ph.D.	Professor, Department of Molecular and Cell Biology, University of Texas at Dallas

Sidney Pestka, M.D.	Chairman and Professor, Department of Molecular Genetics and Microbiology, and Professor of Medicine, University of Medicine and Dentistry of New Jersey, Robert Wood Johnson Medical School

Jeffrey Schlom, Ph.D.	Chief, Laboratory of Tumor Immunology and Biology, Division of Cancer Biology and Diagnosis, National Cancer Institute, National Institute of Health
David A. Scheinberg, M.D., Ph.D.	Chief, Leukemia Service; Head, Hematopoietic Cancer Immunochemistry Laboratory, Memorial Sloan-Kettering Cancer Center
Gary Strobel, Ph.D.	Professor, Montana State University

All of the scientific advisors are employed by other entities and some have consulting agreements with other such entities, some of which may compete with us. Four of the current scientific advisors receive $1,000 per month from us. The scientific advisors are expected to devote only a small portion of their time to us and are not expected to participate actively in our day-to-day affairs. Certain of the institutions with which the scientific advisors are affiliated may adopt new regulations or policies that limit the ability of the scientific advisors to consult with us. It is possible that any inventions or processes discovered by the scientific advisors will remain the property of such persons or of such persons' employers. In addition, the institutions with which the scientific advisors are affiliated may make available the research services of their personnel, including the scientific advisors, to our competitors.

Dr. Yitzak Apeloig is Professor and Chairman of the Department of Chemistry at the Technion - Israel Institute of Technology in Haifa, Israel. He is an authority in the areas of Organosilicon Chemistry, Computational Chemistry and Mechanistic Organic Chemistry.

Dr. Hugo David is consultant mycobacteriologist to the Institute of Hygiene and Tropical Medicine at New University of Lisbon. He was chief of the mycobacteriology branch at Center for Disease Control and a Professor and Head of the Mycobacterial and Tuberculosis Unit at Pasteur Institute in Paris. Dr. David is an authority on mycobacterial infections and vaccine development for tuberculosis and leprosy.

Dr. Donald M. Gray is a Professor and was, until August 1995, Chairman of the Department of Molecular and Cell Biology, University of Texas at Dallas. He is a world authority on DNA structures in solution and is working with us on anti-sense therapy.

Dr. Sidney Pestka is Professor and Chairman of the Department of Molecular Genetics and Microbiology and Professor of Medicine, University of Medicine and Dentistry of New Jersey, Robert Wood Johnson Medical School. Dr. Pestka was formerly head of the program at the Roche Institute of Molecular Biology which resulted in the development of interferon for commercialization.

Dr. Jeffrey Schlom is Chief of the Laboratory of Tumor Immunology and Biology, Division of Cancer Biology and Diagnosis at the National Cancer Institute, National Institutes of Health and is one of the world leaders in the development of monoclonal antibodies for cancer therapy.

Dr. David A. Scheinberg is Chief of Leukemia Service and Head of the Hematopoietic Cancer Immunochemistry Laboratory at Memorial Sloan-Kettering Cancer Center. He is an authority on the immunotherapy of cancer and has directed many clinical trials for new anti-cancer products.

Dr. Gary Strobel is Professor at Montana State University. Dr. Strobel and colleagues Dr. Andrea Stierle and Dr. Donald Stierle isolated the fungus, Taxomyces andreanae, which is being used by Cytoclonal Pharmaceutics Inc. to make the anti-cancer drug, Paclitaxel.

EXECUTIVE COMPENSATION

The following table sets forth the aggregate compensation paid or accrued by us for services rendered during the last three fiscal years to Dr. Arthur P. Bollon, our Chief Executive Officer. Under the Securities Act, we are required to disclose the same information for our four most highly compensated executive officers, in addition to our Chief Executive Officer, whose annual

compensation exceeded $100,000 for the fiscal year ended December 31, 1998. However, since none of our executive officer's, other than Dr. Bollon's, compensation exceeded $100,000 for the last fiscal year, we are only required to disclose Dr. Bollon's compensation for the past three fiscal years.

SUMMARY COMPENSATION TABLE

		ANNUAL COMPENSATION			LONG-TERM COMPENSATION AWARDS
NAME AND PRINCIPAL POSITION	YEAR YEAR	SALARY SALARY	BONUS BONUS	ALL OTHER COMPENSATION (CAR-ALLOWANCE)	STOCK OPTIONS #
Arthur P. Bollon, -Chairman of the Board, President and Chief Executive Officer	1998	$186,230	-	$6,000	100,000
	1997	$180,856	-	$6,000	95,000
	1996	$165,951	-	$6,000	150,000

EMPLOYMENT CONTRACTS AND TERMINATION OF EMPLOYMENT AND CHANGE-IN-CONTROL ARRANGEMENTS

Arthur P. Bollon, Ph.D. is employed by us under an employment agreement, expiring November 6, 2003. The employment agreement provides for the payment to Dr. Bollon of a base salary of $200,000 per year with annual increases of not less that 5% per year. In addition, in the event Dr. Bollon is terminated without just cause or due to a disability, the employment agreement provides that Dr. Bollon shall receive severance payments of equal monthly installments at the base rate until the earlier of the expiration of the term or the expiration of 36 months. Dr. Bollon also receives a car expense allowance of $500 per month under the employment agreement.

We granted Dr. Bollon the following options:

- In November 1992, we granted Dr. Bollon options to purchase 200,000 shares of our common stock at an exercise price of $1.65 per share.
- In April 1996, we granted Dr. Bollon options to purchase 50,000 shares of our common stock at an exercise price of $4.125 per share.
- In December 1996, we granted Dr. Bollon options to purchase 100,000 shares of our common stock at an exercise price of $2.25 per share.
- In January 1997, we granted Dr. Bollon options to purchase 50,000 shares of our common stock at an exercise price of $2.375 per share.

- In June 1997, we granted Dr. Bollon options to purchase 20,000 shares of our common stock at an exercise price of $2.6875 per share.
- In September 1997, we granted Dr. Bollon options to purchase 25,000 shares of our common stock at an exercise price of $4.3125 per share.
- In September 1998, we granted Dr. Bollon options to purchase 25,000 shares of our common stock at an exercise price equal to $3.56 per share.
- In October 1998, we granted Dr. Bollon options to purchase 75,000 shares of our common stock at an exercise price of $4.75 per share.

All but the October 1998 stock option grant has been registered under the Securities Act. All such options are exercisable to the extent of 40% after

six months of continuous employment from the date of grant and to the extent of an additional 20% on and after each of the first three anniversaries of the date of grant.

Each of our executive officers and principal scientists have entered into confidentiality and patent assignment agreements with Cytoclonal Pharmaceutics Inc..

STOCK OPTIONS

In October 1992, our Board of Directors adopted the Cytoclonal Pharmaceutics Inc. 1992 Stock Option Plan. The 1992 Plan provides for the grant of incentive stock options intended to qualify as such under Section 422 of the Internal Revenue Code of 1986, as amended, and nonstatutory stock options which do not so qualify. Under the 1992 Plan, as amended, 520,000 shares of our common stock were reserved for issuance to our officers, employees, consultants and advisors. As of March 31, 1999, options to purchase 218,500 shares of our common stock have been exercised, no shares are available for future grant and options to purchase 301,500 shares of common stock remain outstanding under the 1992 Plan. The exercise prices of such options range from $1.65 to $5.00 per share.

In April 1996, our Board of Directors adopted the Cytoclonal Pharmaceutics Inc. 1996 Stock Option Plan. Under the 1996 Plan, 750,000 shares of our common stock have been reserved for issuance to our officers, employees, consultants and advisors. The 1996 Plan provides for the grant of incentive stock options intended to qualify as such under Section 422 of the Internal Revenue Code of 1986, as amended, and nonstatutory stock options which do not so qualify. In October 1998, stockholders approved an amendment to the 1996 Plan to increase the number of stock options available for grant under the plan from 750,000 to 1,500,000. As of March 31, 1999, options to purchase 5,400 shares of our common stock have been exercised, options to purchase 487,000 shares of our common stock are available for future grant and options to purchase 1,007,600 shares of our common stock remain outstanding. The exercise prices of such options granted so far range from $2.25 to $8.375 per share. All such options are 40% exercisable after six months of continuous employment from the date of grant and increase by 20% increments on each of the first three anniversaries of the date of grant.

Our stock option plans are administered by the Compensation Committee of our Board of Directors. Subject to the limitations set forth in the plans, the Compensation Committee has the authority to determine to whom options will be granted, the term and vesting schedule of options and the exercise price. The maximum term of each incentive stock option granted under the plans is ten years. The exercise price of options qualifying as "incentive stock options" may not be less than the fair market value of our common stock on the date of the grant. The exercise price of incentive stock options granted to any participant who owns more than 10% of the total combined voting power of all classes of our outstanding stock must be not less than 110% of the fair market value on the date of grant, and incentive stock options granted to such participants must also expire within five years from the date of grant. Under the 1992 Plan, the exercise price

of options is payable in cash or, at the discretion of the Board, in our common stock or a combination of cash and common stock. Under the 1996 Plan, the exercise price of options is payable in cash or such other means which the Board determines are consistent with such Plan and with applicable laws and regulations.

The following table sets forth certain information with respect to options granted during the year ended December 31, 1998 to Dr. Bollon, our Chief Executive Officer. Besides Dr. Bollon, none of our executive officer's 1998 annual compensation exceeded $100,000, and therefore, are not listed in accordance with the Securities Act.

OPTION GRANTS IN FISCAL YEAR 1998

INDIVIDUAL GRANTS

Name	Options Granted (#)	% of Total Options Granted to Employees in Fiscal Year	Exercise of Base Price ($/Sh)	Expiration Date
Arthur P. Bollon, Ph.D., -Chairman of the Board of Directors, President and Chief Executive Officer	25,000	8.4	$3.56	September 1, 2008
	75,000	25.3	$4.75	October 7, 2008

The following table sets forth certain information with respect to each exercise of stock options during the fiscal year ended December 31, 1998 by Dr. Bollon and the number and value of unexercised options held by Dr. Bollon as of December 31, 1998:

AGGREGATED OPTION EXERCISES
IN LAST FISCAL YEAR AND FY-END OPTION VALUES

NAME	Shares Acquired On Exercise (#)	Value Realized ($)	Number of Securities Underlying Unexercised Options at FY-End (#) Exercisable/ Unexercisable	Value of Unexercised In-the-Money Options at FY-End (#) Exercisable/ Unexercisable based on Fair Market Value of Common Stock on December 31, 1998
Arthur P. Bollon, Ph.D. -Chairman of the Board of Directors, President and Chief Executive Officer	0	0	387,000/158,000	$2,660,625/$1,086,250

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS
AND MANAGEMENT

Generally, under the Securities Exchange Act of 1934, a person is deemed to "beneficially own" securities which that person has the right to acquire within 60 days. The following table sets forth certain information regarding the beneficial ownership of our capital stock as of July 6, 1999 by each person deemed to be the beneficial owner of more than 5% of any class of our capital stock, each of our directors and all directors and executive officers as a group, without naming them. Information as to Kinder Investments, L.P.; Peyser Associates, L.L.C., the general partner of Kinder; and Brian A. Wasserman, the managing partner of Peyser, was derived from the Schedules 13G, as amended, filed by such stockholders with the SEC on April 8, 1998, and, except for the percentage ownership, reflects the information contained therein as of the date such Schedules 13G, as amended, were filed. Except as otherwise indicated, each of the persons named has sole voting and investment power with respect to the shares shown below.

	Common Stock		Series A Preferred Stock		
Name and Address of Beneficial Owner(1)	Amount and Nature of Beneficial Ownership (2)	Percent of Class (2)	Amount and Nature of Beneficial Ownership (3)	Percent of Class (3)	Percent of all Voting Securities (4)
Janssen-Meyers Associates, L.L.P.(5).	2,684,279	24.2%	24,200	3.4%	22.7%
Bruce Meyers(6).....	1,840,446	16.8%	24,200	3.4%	15.7%

Peter W. Janssen(7).....	1,187,547	11.0%	--	--	10.3%
Kinder Investments, L.P.(8).....	708,000	6.8%	--	--	6.4%
Peyser Associates, L.L.C.(9).....	708,000	6.8%	--	--	6.4%
Brian A. Wasserman(10).....	708,000	6.8%	--	--	6.4%
Arthur P. Bollon, Ph.D.(11).....	625,400	5.8%	--	--	5.7%
Ira J. Gelb, M.D.(12).....	110,000	1.1%	--	--	1.0%
Irwin C. Gerson(13).....	110,000	1.1%	--	--	1.0%
Walter M. Lovenberg, Ph.D.(14)...	112,500	1.1%	--	--	1.0%
Gary E. Frashier(15).....	-	-	--	--	--
Directors and executive officers as a group (6 persons)(16).....	1,004,900	9.0%	--	--	8.5%

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* Less than 1%

Except as otherwise indicated, each of the persons named has sole voting and investment power with respect to the shares shown below.

(1) Except as otherwise indicated, the address of each beneficial owner is c/o Cytoclonal Pharmaceutics Inc., 9000 Harry Hines Boulevard, Suite 621, Dallas, Texas 75235.

(2) Calculated on the basis of 10,343,412 shares of common stock outstanding. Shares of common stock underlying options or warrants exercisable within 60 days of the date hereof are deemed to be outstanding for purposes of calculating the beneficial ownership of securities of the holder of such options or warrants.

(3) Calculated on the basis of 714,641 shares of preferred stock outstanding.

(4) Calculated on the basis of an aggregate of 11,058,053 shares of common stock and preferred stock. Shares of common stock underlying options and warrants exercisable within 60 days of the date hereof are deemed to be outstanding for purposes of calculating beneficial ownership of securities of the holder of such options or warrants. This calculation excludes shares of common stock issuable upon the conversion of preferred stock.

(5) The address for Janssen-Meyers Associates, L.P. is 17 State Street, New York, New York 10004. Messrs. Bruce Meyers and Peter Janssen are each 50% stockholders and the sole officers and directors of the corporate general partner of Janssen-Meyers. Calculation includes (i) 262,184 shares of common stock issuable upon the exercise of options granted Janssen-Meyers in connection with our initial public offering in November 1995, (ii) 81,530 shares of common stock issuable upon the exercise of an option granted Janssen-Meyers in connection with our private placement in April 1998, and (iii) shares of common stock and preferred stock beneficially owned by Messrs. Meyers and Janssen. See (6) and (7) below.

(6) Mr. Meyers' address is c/o Janssen-Meyers referenced in note (5) above Calculation includes (i) 1,139,208 shares of common stock, (ii) 24,200 shares of common stock issuable upon the conversion of preferred stock, (iii) 159,284 shares of common stock issuable upon the exercise of options originally granted Janssen-Meyers in connection with our initial public offering in November 1995 which were transferred to Mr. Meyers, (iv) 14,000 shares of common stock issuable upon the exercise of Class C Warrants and underlying Class D Warrants, (v) 9,650 shares of common stock issuable upon the exercise of Class D Warrants, (vi) 50,327 shares of common stock issuable upon the exercise of an option originally granted Janssen-Meyers in connection with our private placement in April 1999 which were transferred to Mr. Myers, (vii) 30,563 shares of common stock issuable upon the exercise of class E warrants, (viii) 62,000 shares of common stock held by The Meyers Foundation of which Mr. Meyers has voting control, (ix) 7,500 shares of common stock which Mr. Meyers has the right to receive from us within 60 days from the date hereof and (x) shares of common stock held by Janssen-Meyers or which Janssen-Meyers has the right to acquire within 60 days hereof. See note (5) above.

(7) Mr. Janssen's address is c/o Janssen-Meyers referenced in note (5) above. Calculation includes (i) 720,563 shares of common stock, (ii) 123,270 shares of common stock issuable upon the exercise of options, and (iii) shares of common stock held by Janssen-Meyers or which Janssen-Meyers has the right to acquire within 60 days hereof. Does not

include 397,575 shares of common stock issuable upon the exercise of warrants not exercisable within 60 days hereof. See note (5) above.

(8) The address for Kinder Investments, L.P. is 779 CR403, Greenville, New York 12083. Ownership consists of 668,000 shares of common stock and 40,000 shares of common stock issuable upon the exercise of Class A Warrants.

(9) Ownership consists of securities beneficially owned by Kinder Investment, L.P. Peyser Associates, L.L.C. is the general partner of Kinder Investments, L.P. See note (8) above.

(10) Ownership consists of securities beneficially owned by Kinder Investments, L.P. Mr. Wasserman is the managing partner of Peyser Associates, L.L.C., and has sole voting and dispositive control of shares owned by Kinder Investments, L.P. See note (8) above.

(11) Calculation includes 184,400 shares of common stock and 441,000 shares of common stock issuable upon the exercise of options. Does not include options to purchase 104,000 shares of common stock not exercisable within 60 days of the date hereof.

(12) Calculation includes 110,000 shares of common stock issuable upon the exercise of options. Does not include options to purchase 19,000 shares of common stock not exercisable within 60 days of the date hereof.

(13) Calculation includes 110,000 shares of common stock issuable upon the exercise of options. Does not include options to purchase 19,000 shares of common stock which are not exercisable within 60 days of the date hereof.

(15) Calculation does not include options to purchase 50,000 shares of common stock which are not exercisable within 60 days of the date hereof.

(16) Calculation includes 191,900 shares of common stock and 813,000 shares of common stock issuable upon the exercise of options and warrants. Does not include options to purchase 216,000 shares of common stock not exercisable within 60 days of the date hereof.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Janssen-Meyers Associates, L.P. acted as the placement agent for our 1995 bridge financing. In consideration for their services rendered, they received fees of $203,750 and a non-accountable expense allowance of $61,125. In addition, Janssen-Meyers was granted, a five-year right of first refusal to act as agent for offerings of our securities by us and certain of our shareholders and the right to receive certain fees in connection with any merger and acquisition pursuant to an agreement.

Janssen-Meyers also acted as the underwriter of our initial public offering in November 1995. In consideration for their services rendered, they received fees of $1,092,500 and a non-accountable expense allowance $345,000. We also granted Janssen-Meyers options to purchase 200,000 units exercisable at $8.25 per unit. Each unit consists of one share of our common stock, one class C warrant and one class D warrant.

Janssen-Meyers also acted as the placement agent of our 1998 private placement. In consideration for its services rendered, they received fees of $563,368, a non-accountable expense allowance of $169,010, an accountable out-of-pocket expense allowance of $13,658, and legal and blue sky fees of $48,610. We also granted Janssen-Meyers warrants, exercisable for a five-year period commencing April 2, 1998, to purchase 134,199 shares of our common stock and class E warrants to purchase 67,101 shares of our common stock.

Bruce Meyers is a principal of Janssen-Meyers and was the Vice Chairman of our Board of Directors and Vice President in charge of Business Development until his resignation from our company in April 1995. In December 1996, we and Janssen-Meyers executed a one year nonexclusive investment banking agreement ,which was extended to January 1999, under which we are obligated to pay Janssen-Meyers a monthly fee of $5,000. During each of 1997 and 1998, we paid Janssen-Meyers $60,000 under this agreement. This agreement expired in January 1999.

DESCRIPTION OF SECURITIES

AUTHORIZED STOCK

Our authorized capital stock consists of 30,000,000 shares of common stock, par value $.01 per share, and 10,000,000 shares of preferred stock, par value $.01 per share.

COMMON STOCK

Of the authorized common stock, 10,343,412 shares were outstanding as of July 6, 1999 and were held by more than approximately 300 record holders. Subject to the prior rights of the holders of any shares of preferred stock currently outstanding or which may be issued in the future, the holders of our common stock are entitled to receive dividends from our funds legally available for payment when, as and if declared by our Board of Directors, and are entitled to share ratably in all of our assets upon our liquidation, dissolution or winding-up, subject to the liquidation preference, if any, of any then outstanding shares of our preferred stock. Holders of our common stock do not have any preemptive, subscription, redemption or conversion rights. Holders of our common stock are entitled to one vote per share on all matters upon which they are entitled to vote at meetings of stockholders or upon actions taken by written consent pursuant to Delaware corporate law. The holders of common stock do not have cumulative voting rights, which means that the holders of a plurality of the outstanding shares can elect all of the directors of our Board of Directors. All of the shares of our common stock currently issued and outstanding are, and the shares of the common stock to be issued upon exercise of the Warrants, when paid for in accordance with the terms will be, fully-paid and nonassessable. No dividends have been paid to holders of the common stock since the incorporation of Cytoclonal Pharmaceutics Inc., and no dividends are anticipated to be declared or paid in the reasonably foreseeable future. See "Dividend Policy." The common stock, class C warrants and class D warrants are

quoted on the Nasdaq SmallCap Market under the symbols "CYPH," "CYPHW" and "CYPHZ," respectively. There can be no assurance, however, that the securities will not be delisted from the Nasdaq SmallCap Market.

PREFERRED STOCK

Our Board of Directors has the authority, without approval by the stockholders, to issue preferred stock from time to time in one or more classes or series, to fix the number of shares constituting any class or series and the stated value thereof, if different from the par value, and to fix the terms of any such series or class, including dividend rights, dividend rates, conversion or exchange rights, voting rights, rights and terms of redemption (including sinking fund provisions), the redemption price and the liquidation preference of such class or series. We presently have one series of preferred stock outstanding, designated as series A preferred stock. We do not have any present plans to issue any other series or class of preferred stock. The designations, rights and preferences of the series A preferred stock is set forth in the Certificate of Designations for such series, which has been filed with the Secretary of State of the State of Delaware.

Series A Preferred Stock. Of our 10,000,000 authorized preferred stock, 4,000,000 shares have been designated series A preferred stock. As of July 6, 1999, there were 714,641 outstanding shares of series A preferred stock. Dividends are payable on the series A preferred stock in the amount of $.25 per share, payable annually in arrears. At the option of our Board of Directors, dividends are paid either wholly or partially in cash or in newly issued shares of series A preferred stock valued at $2.50 per share to the extent a cash dividend is not paid.

The following is a history of our dividends on the series A preferred stock:

- In January 1993, shares of series A preferred stock were issued as partial payment of the dividend due on the series A preferred stock for the year ended December 31, 1992 (the remaining dividend was paid in cash).

- In January 1994, 104,869 shares of series A preferred stock were issued as full payment of the dividend due on the series A preferred stock for the year ended December 31, 1993.

- In January 1995, 115,307 shares of series A preferred stock were issued as full payment of the dividend due on series A preferred stock for the year ended December 31, 1994.

- In January 1996, 126,888 shares of series A preferred stock were issued as full payment of the dividend due on the series A preferred stock for the year ended December 31, 1995.

- In January 1997, 122,788 shares of series A preferred stock were issued as full payment of the dividend due on the series A preferred stock for the year ended December 31, 1996.

- In January 1998, 94,680 shares of series A preferred stock were issued as full payment of the dividend due on the series A preferred stock for the year ended December 31, 1997.

- In January 1999, 74,648 shares of the series A preferred stock were issued as full payment of the dividends due the series A preferred stock for the year ended December 31, 1998. See "Dividend Policy."

The holders of our series A preferred stock have the right to convert their shares, at their option exercisable at any time, into shares of our common stock on a one-for-one basis subject to anti-dilution adjustments. These anti-dilution adjustments are triggered in the event of any subdivision or combination of our common stock, any payment by us of a stock dividend to holders of our common stock or other occurrences specified in our Certificate of Designations relating to the series A preferred stock. We may elect to convert the series A preferred stock into common stock or a substantially equivalent preferred stock in case of our merger or consolidation with another entity in which we do not survive, a sale of all or substantially all of our assets or our substantial reorganization. Each share of series A preferred stock is entitled to one vote on all matters on which the common stock has the right to vote. Holders of series A preferred stock are also entitled to vote as a separate class on any proposed adverse change in the rights, preferences or privileges of the series A preferred stock and any increase in the number of authorized shares of series A preferred stock. We, at our sole option, have the right to redeem all or any portion of our series A preferred stock at $2.50 per share plus accrued and unpaid dividends. In the event of our liquidation or winding-up, the holders of our series A preferred stock will be entitled to receive $2.50 per share plus any accrued and unpaid dividends before any distribution to the holders of the common stock.

UNITS

We sold units in our initial public offering in November 1995. Each unit consisted of one share of our common stock, one class C warrant and one class D warrant.

Each class C warrant entitles the holder thereof to purchase one share of common stock and one class D warrant at an exercise price of $6.50, subject to adjustment, until November 2, 2000.

Each Class D Warrant entitles the holder thereof to purchase one share of common stock at an exercise price of $8.50, subject to adjustment, until November 2, 2000. The units were separated into their components after the initial public offering.

CLASS C WARRANTS AND CLASS D WARRANTS

The following discussion of the terms and provisions of the class C warrants and class D warrants is qualified in its entirety by reference to the warrant agreement between us, the underwriter of the initial public offering and the warrant agent. The warrants will be evidenced by warrant certificates in registered form.

As of July 6, 1999, there were 2,006,073 outstanding class C warrants and 2,510,927 outstanding class D warrants.

Class C warrants. The holder of each class C warrant is entitled to purchase one share of our common stock and one class D warrant at an aggregate exercise price of $6.50, subject to adjustment in certain circumstances. The class C warrants are exercisable at any time until November 2, 2000, provided that at such time a current prospectus under the Securities Act relating to the common stock and the class D warrants is then in effect and the common stock and the class D warrants are qualified for sale or exempt from qualification under applicable state securities laws. The class C warrants are subject to redemption, as described below.

Class D warrants. The holder of each class D warrant is entitled to purchase one share of our common stock at an exercise price of $8.75 per share, subject to adjustment in certain circumstances. The class D warrants are exercisable until November 2, 2000, provided that at such time a current prospectus under the Securities Act relating to the common stock is then in effect and the common stock is qualified for sale or exempt from qualification under applicable state securities laws. The class D warrants issuable upon exercise of the class C warrants are, upon issuance, immediately transferable. The class D warrants are subject to redemption, as described below.

Redemption. We have the right to redeem the class C warrants and class D warrants on not less than 30 days' prior written notice, at a price of $.05 per warrant, if the average closing bid price of the common stock for any 30 consecutive business day period ending within 15 business days of the date on which the notice of redemption is given exceeds $9.10 per share, subject to adjustment, with respect to the class C warrants and $12.25 per share, subject to adjustment, with respect to the class D warrants. For these purposes, the closing bid price of the common stock shall be determined by the closing bid price, as reported by Nasdaq, so long as the common stock is quoted on the Nasdaq SmallCap Market or if the common stock is a Nasdaq National Market security or listed on a securities exchange, shall be determined by the last reported sales price. Our redemption rights will be in effect only if our common stock is either quoted on Nasdaq or listed on a securities exchange. Holders of the class C warrants and class D warrants will automatically forfeit exercise rights purchase after they are redeemed. All of the outstanding warrants of a class, except for those underlying the option we granted to the underwriter of our initial public offering, must be redeemed if any portion of that class is to be redeemed. A notice of redemption will be mailed to each of the registered holders of the warrants no later than 30 days before the date fixed for redemption. The notice of redemption shall specify the redemption price, the date fixed for redemption, the place where the warrant certificates shall be delivered and the date of expiration of the right to exercise the warrants.

Initial Public Offering Unit Purchase Option. In consideration for their services rendered, we granted the underwriter, Janssen-Meyers Associates, L.P., of our initial public offering in November 1995, an option to purchase 200,000 units for $8.25 per unit, subject to adjustment in certain circumstances. The units purchasable upon exercise of the option are identical to the units we sold in our initial public offering, except that the underlying warrants are subject to redemption only if the option has been exercised. The option is exercisable until November 2, 2000. The option may be assigned in whole or in part to any officer of the underwriters or member of the selling group. During the term of the option, the holder thereof is given, at nominal cost, the opportunity to profit from a rise in the market price of the common stock by exercising the option, with a resulting dilution in the interests of other stockholders. As a result, we may find it more difficult to raise additional equity capital if it should be needed for our operation while the option is outstanding. Moreover, at any time when the holders of the option might be expected to exercise it, we would probably be able to obtain additional equity capital on terms more favorable than those provided by the exercise proceeds of the option. We have agreed to register under the Securities Act on

two separate occasions, the first at our own expense, the option and the securities underlying it at the request of the holder thereof. We have also agreed to provide certain "piggy-back" registration rights for the holders of the option and the securities underlying it.

General. The class C warrants and class D warrants may be exercised upon surrender of the certificate therefor on or prior to the expiration or redemption date at our warrant agent, American Stock Transfer & Trust Company, with the form of "Election to Purchase" on the reverse side of the certificate filled out and executed as indicated, accompanied by payment in the form of a certified or cashier's check payable to the order of Cytoclonal Pharmaceutics Inc. of the full exercise price for the number of warrants being exercised. We, in our sole discretion, have the right to reduce the exercise price of either or both classes of warrants subject to compliance with Rule 13e-4 under the Exchange Act, if applicable.

The class C and D warrants contain provisions that protect the holders thereof against dilution by adjustment of the exercise price and rate in certain events, such as stock dividends, stock splits or combinations, mergers, sales of all or substantially all of our assets at less than market value, sales of stock at below market price and other unusual events.

We are not required to issue fractional shares and in lieu thereof will make a cash payment based upon the current market value of such fractional shares determined as the mean between the last reported bid and asked prices reported or, if our common stock is quoted on the Nasdaq National Market System or traded on a securities exchange, the last reported sales price, in each case as of the last business day prior to the date of exercise. The holder of a warrant will not have any rights as a stockholder unless and until the warrant is exercised.

CLASS A WARRANTS AND CLASS B WARRANTS

As of July 6, 1999, there were 287,500 class A warrants and 470,220 class B warrants outstanding. Both classes of warrants are exercisable for 0.4 shares of our common stock. The class A warrants are exercisable at $3.75 per share of common stock and the class B warrants are exercisable at $4.375 per share of common stock until November 2000. The warrants contain provisions that protect holders from dilution by adjustment of the exercise price and number of underlying shares in the event of our merger, acquisition, recapitalization or split-up of shares of common stock, the issuance by us of a stock dividend, sales of stock below current market price and other unusual events.

CLASS E WARRANTS

In April 1998, we completed a private placement of 56.3 units in eight separate closings. Each unit consisted of shares of our common stock and class E warrants. The number of shares of our common stock each investor purchased was determined by dividing the $100,000 price of a unit by the 30-day average closing bid price of our common stock as reported by the Nasdaq SmallCap Market. The average closing bid price ranged from $8.18 to $9.46 during the eight separate closings of the private placement. The number of class E warrants each investor purchased was one-half the number of shares of common stock he purchased in the same closing. The exercise price of each class E warrant was 120% of the purchase price of the common stock. Each class E warrant entitles the holder to purchase one share of our common stock at any time until April 2, 2003. In consideration for services rendered, we granted the placement agent of the private placement, Janssen-Meyers Associates, L.P., options to purchase 20% of the units sold in the private placement. The options are exercisable until April 2, 2003 and have different exercise prices equal to the purchase prices of the units in the eight separate closing. The unit purchase option is exercisable for 134,199 shares of our common stock at prices ranging from $8.18 to $9.46 per share and class E warrants to purchase 67,101 shares of our common stock at exercise prices ranging from $9.82 to $11.35 per share.

TRANSFER AGENT AND WARRANT AGENT

American Stock Transfer and Trust Company serves as our transfer agent and warrant agent.

REGISTRATION RIGHTS

As of July 6, 1999, holders of the following securities have demand and piggyback registration rights until November 2, 2000:

(i) 2,000,000 shares of common stock;

(ii) 200,000 shares of common stock issuable upon the exercise of outstanding options,

(iii) 714,641 shares of common stock issuable upon the conversion of outstanding series A preferred stock

(iv) 100,000 shares of common stock issuable upon the conversion of series A preferred stock underlying outstanding options.

In addition, Cytoclonal Pharmaceutics Inc. has registered the following securities:

(i) 810,000 shares of common stock issuable upon the exercise of outstanding class A and B warrants;

(ii) 150,000 shares of common stock issuable upon exercise of the warrants granted to a private placement agent;

(ii) 1,796,100 shares of common stock issuable upon the exercise of options authorized for grant under our 1992 and 1996 stock option plans.

(iii) granted certain "piggy-back" registration rights to the holders of 20,000 shares of Common stock issued by Cytoclonal Pharmaceutics Inc. in connection with the formation of the joint venture with Pestka Biomedical Laboratories, Inc.; (v) granted certain "piggy-back" registration rights to the holders of options and warrants to acquire an aggregate of 170,000 shares of common stock granted and issued in connection with financial advisory and public relations services rendered to Cytoclonal Pharmaceutics Inc. and pursuant to a license agreement. The exercise of one or more of these registration rights may involve substantial expense to Cytoclonal Pharmaceutics Inc. and may adversely affect the terms upon which Cytoclonal Pharmaceutics Inc. may obtain additional financing.

BUSINESS COMBINATION PROVISIONS

We are incorporated under the laws of Delaware. As such, we are subject to Delaware law regulating "business combinations," defined to include a broad range of transactions, between Delaware corporations and "interested stockholders," defined as persons who have acquired at least 15% of a corporation's stock. Under this law, a corporation may not engage in any business combination with any interested stockholder for a period of three years from the date such person became an interested stockholder unless certain conditions are satisfied. The statute contains provisions enabling a corporation to avoid the statute's restrictions.

At this time, we will not seek to be exempted from this statute, and, therefore, upon closing of this offering and the registration of our securities under the Exchange Act, the restrictions imposed by such statute will apply to us.

SHARES ELIGIBLE FOR FUTURE SALE

As of July 6, 1999, we had 10,343,412 shares of common stock

outstanding. Holders of the class C warrants and class D warrants will be entitled to purchase an aggregate of 6,523,073 additional shares of our common stock upon the exercise of such warrants until November 2, 2000, provided that we satisfy certain securities registration and qualification requirements with respect to the securities underlying such warrants. All shares of common stock purchased upon exercise of the warrants will be freely tradeable without restriction under the Securities Act provided that such registration and qualification requirements are met, except for any shares purchased by any person who is or thereby becomes an "affiliate" may be subject to the resale limitations contained in Rule 144 under the Securities Act.

Up to 800,000 additional shares of our common stock may be purchased upon the exercise of options we granted to the underwriters of our initial public offering in November 1995. Any and all shares of common stock purchased upon exercise of this option may be freely tradeable, provided that we satisfy certain securities registration and qualification requirements.

A significant number of shares of our common stock and shares of common stock issuable upon the conversation of our series A preferred stock, none of which are being offered hereby, are "restricted securities" within the meaning of Rule 144 under the Securities Act and, if held for at least one year, may be eligible for sale in the public market in reliance upon Rule 144 following the expiration of such period.

In general, under Rule 144, a person, including a person who may be deemed to be our "affiliate," as that term is defined under the Securities Act, will be entitled to sell within any three-month period a number of shares of common stock beneficially owned for at least one year which does not exceed the greater of:

- one (1%) percent of our shares of outstanding common stock, or
- the average weekly trading volume in the common stock during the four calendar weeks preceding such sale.

Sales under Rule 144 are also subject to certain requirements as to the manner of sale, notice and the availability of current public information about our company. A person who is not deemed to have been our affiliate during the 90 days preceding a sale by such person, and who has beneficially owned shares of our common stock for at least two years, may sell such shares without regard to the volume, manner of sale or notice requirements of Rule 144.

We cannot predict the effect, if any, that sales of our common stock pursuant to Rule 144 or otherwise, or the availability of such shares for sale, will have on the market price prevailing from time to time. Nevertheless, sales by the existing stockholders of substantial amounts of our common stock in the public market could adversely affect prevailing market prices for our common stock. In addition, the availability for sale of a substantial amount of common stock acquired through the exercise of the warrants could adversely affect prevailing market prices for the common stock.

PLAN OF DISTRIBUTION

We are offering the common stock and class D warrants pursuant to the terms of the class C warrants and class D warrants. No underwriter is being utilized in connection with this offering.

We have agreed to pay Janssen-Meyers Associates, L.P., the underwriter of our initial public offering in which we sold the class C warrants and class D warrants, a solicitation fee equal to 5% of the aggregate exercise price of all warrants exercised, provided that:

- the market price of our common stock on the date that the warrants are exercised is greater than the warrant exercise price;
- the exercise of the warrants was solicited by

Janssen-Meyers or their representative or agent and the warrantholder designates in writing that the exercise was solicited thereby;

- the warrants are not held in a discretionary account;
- disclosure of the solicitation fee is made by Janssen-Meyers at the time of the exercise of the warrants; and
- the solicitation of the exercise of the warrants was not in violation of Rule 10b-6 under the Exchange Act.

Janssen-Meyers will generally be prohibited from engaging in market-making activities regarding our securities for a period specified by Rule 10b-6 under the Exchange Act prior to any solicitation of the exercise of warrants until the termination of such solicitation. Accordingly, Janssen-Meyers may be unable to provide a market for our securities during certain periods while the warrants are exercisable.

LEGAL MATTERS

The validity of our securities offered hereby will be passed upon by the law firm of Morrison Cohen Singer & Weinstein, LLP, New York, New York. A partner of Morrison Cohen Singer & Weinstein, LLP holds options to acquire shares of our common stock.

EXPERTS

The balance sheets as at December 31, 1998 and 1997 and the related statements of operations, changes in stockholders' equity and cash flows for each of the years in the three-year period ended December 31, 1998, included in this prospectus have been audited by, and are included herein in reliance upon the report of Richard A. Eisner & Company, LLP, independent auditors, given on the authority of that firm as experts in accounting and auditing.

ADDITIONAL INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may ready and copy any reports, statements or other information on file with the SEC's public reference room in Washington, D.C. You can request copies of those documents, upon payment of a duplicating fee, by writing to the SEC.

We have filed a Post-Effective Amendment No. 7 to Registration Statement on Form SB-2 (File No.: 33- 91802) with the SEC. This prospectus, which forms a part of the post-effective amendment to the registration statement, does not contain all of the information included in the amendment. Certain information is omitted and you should refer to the amendment and its exhibits. With respect to references made in this prospectus to any of our contracts or documents, such references are not necessarily complete, and you should refer to the exhibits attached to the registration statement for copies of the actual contract or document. You may review a copy of the post-effective amendment to the registration statement at the SEC's public reference room in Washington, D.C., and at the SEC's regional offices in Chicago, Illinois and New York City. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference rooms. Our SEC filings and the Post-Effective Amendment No. 7 can also be reviewed by accessing the SEC's Internet site at http://www.sec.gov.

CYTOCLONAL PHARMACEUTICS INC.
INDEX TO FINANCIAL STATEMENTS

	PAGE NUMBER
INDEPENDENT AUDITORS' REPORT	F-
BALANCE SHEETS AS OF DECEMBER 31, 1998 AND 1997	F-
STATEMENTS OF OPERATIONS FOR THE YEARS ENDED DECEMBER 31, 1998, 1997 AND 1996	F-
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY FOR THE YEARS ENDED DECEMBER 31, 1998, 1997 AND 1996	F-
STATEMENTS OF CASH FLOWS FOR THE YEARS ENDED DECEMBER 31, 1998, 1997 AND 1996	F-
NOTES TO FINANCIAL STATEMENTS	F-
BALANCE SHEET AS OF MARCH 31, 1999 (UNAUDITED)	F-
STATEMENTS OF OPERATIONS FOR THE THREE MONTHS ENDED MARCH 31, 1999 AND 1998 (UNAUDITED)	F-
STATEMENTS OF CASH FLOWS FOR THE THREE MONTHS ENDED MARCH 31, 1999 AND 1998 (UNAUDITED)	F-
NOTES TO FINANCIAL STATEMENTS (UNAUDITED)	F-

CYTOCLONAL PHARMACEUTICS INC.

CONSISTING OF

6,523,073 SHARES OF COMMON STOCK

AND 2,006,073 REDEEMABLE CLASS D WARRANTS

P R O S P E C T U S

_____, 1999

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61

[ALTERNATE LANGUAGE FOR MARKET-MAKING PROSPECTUS]
SUBJECT TO COMPLETION
CYTOCLONAL PHARMACEUTICS INC.

SHARES OF COMMON STOCK AND
CLASS D WARRANTS

This prospectus will be used by Janssen-Meyers Associates, L.P. in connection with offers and sales in market-making transactions in our common stock, par value $.01 per share, and class D warrants. Janssen-Meyers may act as a principal or agent in such transactions. The common stock and warrants may be offered in negotiated transactions or otherwise. Sales will be made at prices related to prevailing market prices at the time of sale.

SEE "RISK FACTORS" BEGINNING ON PAGE 6 OF THIS PROSPECTUS AND "DILUTION."

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this Prospectus is _____ ___, 1999.

62

[ALTERNATE LANGUAGE FOR MARKET-MAKING PROSPECTUS]

PLAN OF DISTRIBUTION

All offers and sales of our common stock and class D warrants pursuant to this prospectus will be for the account of Janssen-Meyers Associates, L.P. in connection with market-making transactions. The stockholders, officers and directors of the corporate general partner of Janssen-Meyers beneficially own in

the aggregate of 26.5% of the outstanding shares of common stock (which represents approximately 24.9% of our voting securities as of July 6, 1999). Janssen-Meyers may act as a principal or agent in such transactions. The common stock and warrants may be offered in negotiated transactions or otherwise. Sales will be made at prices related to prevailing market prices at the time of sale.

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No dealer, sales representative or any other person has been authorized to give any information or to make any representations in connection with this offering other than those contained in this prospectus and, if given or made, such other information and representations must not be relied upon as having been authorized by Cytoclonal Pharmaceutics Inc. or Janssen-Meyers Associates, L.P. Neither the delivery of this prospectus nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of Cytoclonal Pharmaceutics Inc. or that the information contained herein is correct as of any time subsequent to the date hereof. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities other than the registered securities to which it relates. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful.

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CYTOCLONAL PHARMACEUTICS INC.

SHARES OF COMMON STOCK

AND

CLASS D WARRANTS

P R O S P E C T U S

JANSSEN-MEYERS ASSOCIATES, L.P.

_____ ___, 1999

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 24. INDEMNIFICATION OF DIRECTORS AND OFFICERS

The Certificate of Incorporation and By-Laws of the Registrant provides that Cytoclonal Pharmaceutics Inc. shall indemnify any person to the full extent permitted by the Delaware General Corporation Law (the "GCL"). Section 145 of the GCL, relating to indemnification, is hereby incorporated herein by reference.

Insofar as indemnification for liabilities under the Securities Act may be permitted to Directors, officers or controlling persons of Cytoclonal Pharmaceutics Inc. pursuant to Cytoclonal Pharmaceutics Inc.'s By-Laws and the Delaware General Corporation Law, Cytoclonal Pharmaceutics Inc. has been informed that in the opinion of the Securities and Exchange Commission, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Cytoclonal Pharmaceutics Inc.'s Certificate of Incorporation includes certain provisions permitted pursuant to Delaware law whereby officers and Directors of Cytoclonal Pharmaceutics Inc. are to be indemnified against certain liabilities. Cytoclonal Pharmaceutics Inc.'s Restated Certificate of Incorporation also limits, to the fullest extent permitted by Delaware law, a director's liability for monetary damages for breach of fiduciary duty, including gross negligence, except liability for (i) breach of the director's duty of loyalty, (ii) acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law, (iii) the unlawful payment of a dividend or unlawful stock purchase or redemption and (iv) any transaction from which the director derives an improper personal benefit. Delaware law does not eliminate a director's duty of care and this provision has no effect on the availability of equitable remedies such as injunction or rescission based upon a director's breach of the duty of care. In addition, Cytoclonal Pharmaceutics Inc. has obtained an insurance policy providing coverage for certain liabilities of its officers and Directors.

In accordance with Section 102(a)(7) of the GCL, the Certificate of Incorporation of the Registrant eliminates the personal liability of directors to Cytoclonal Pharmaceutics Inc. or its stockholders for monetary damages for breach of fiduciary duty as a director with certain limited exceptions set forth in Section 102(a)(7).

ITEM 25. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The estimated expenses payable by the Registrant in connection with the issuance and distribution of the securities being registered are as follows:

	Amount
Printing Expenses	$ 10,000
Accounting Fees and Expenses	12,500
Legal Fees and Expenses	60,000
Miscellaneous Expenses	2,500
Total.	$ 85,000

ITEM 26. RECENT SALES OF UNREGISTERED SECURITIES

In the three years preceding the filing of this Registration Statement, Cytoclonal Pharmaceutics Inc. has issued the following unregistered securities.

In July 1996, Cytoclonal Pharmaceutics Inc. issued The Washington State University Research Foundation a six year warrant in connection with the execution of Cytoclonal Pharmaceutics Inc.'s license agreement with The Washington State University Research Foundation. Such warrant entitles The Washington State University Research Foundation to acquire an aggregate of 36,000 shares of Cytoclonal Pharmaceutics Inc.'s common stock at an exercise price of $4.25 per share. One third of the warrants may be exercised after each of July 7, 1999, July 7, 2000 and July 2, 2001. The warrant was issued pursuant to the exemption afforded by Section 4(2) promulgated under the Securities Act based on the fact that the issuance was to a single entity not involving a public offering.

In January 1997, Cytoclonal Pharmaceutics Inc. issued 122,788 shares of series A preferred stock as full payment of the dividend due on the series A preferred stock for the year ended December 31, 1996 to the holders of such preferred stock. Such issuance was pursuant to Section 3(a)(9) promulgated under the Securities Act based on the fact that it involved an exchange by the issuer exclusively with its existing security-holders and no commission or other remuneration was paid or given directly or indirectly for soliciting such exchange.

In February and September 1997, Cytoclonal Pharmaceutics Inc. granted options to purchase 10,000 and 40,000 shares of common stock at exercise prices of $4.38 and $4.31 per share, respectively, as compensation for professional services. The options were granted pursuant to the exemption afforded by Section 4(2) promulgated under the Securities Act based on the fact that the issuance was to a single entity not involving a public offering.

In January and March 1998, Cytoclonal Pharmaceutics Inc. issued an aggregate of 94,680 shares of series A preferred stock as full payment of the dividend due on the series A preferred stock for the year ended December 31, 1997 to the holders of such preferred stock. Such issuance was pursuant to Section 3(a)(9) promulgated under the Securities Act based on the fact that it involved an exchange by the issuer exclusively with its existing security-holders and no commission or other remuneration was paid or given directly or indirectly for soliciting such exchange.

In April 1998, Cytoclonal Pharmaceutics Inc. completed a private placement of 671,026 shares of common stock and 335,540 common stock purchase class E warrants to purchase an equal amount of shares of common stock pursuant to Section 4(2) and the provisions of Regulation D promulgated under the Securities Act. In connection with such private placement, Cytoclonal Pharmaceutics Inc. issued to an option to the placement agent to purchase 134,207 shares of common stock and warrants to purchase 67,108 shares of common stock pursuant to Section 4(2) and the provisions of Regulation D promulgated under the Securities Act.

In October 1998, Cytoclonal Pharmaceutics Inc. granted options under Cytoclonal Pharmaceutics Inc.'s 1996 Stock Option Plan, as amended, to purchase 265,000 shares of common stock at an exercise price equal to $4.75 per share, the fair market value of Cytoclonal Pharmaceutics Inc.'s common stock on such date, to certain of its executive officers, directors and employees and counsel in consideration for professional services rendered Cytoclonal Pharmaceutics Inc. Cytoclonal Pharmaceuticals Inc. granted such options pursuant to the exemption afforded by Section 4(2) promulgated under the Securities Act based on the fact that the grant didn't involve a public offering.

In January 1999, Cytoclonal Pharmaceutics Inc. granted 25,000 shares of common stock and options to purchase 75,000 shares of its common stock pursuant to a three-year employment agreement between Cytoclonal Pharmaceutics Inc. and its Vice President of Drug Design in consideration for such individual's assignment of technology to Cytoclonal Pharmaceutics Inc. The shares of common stock were granted pursuant to the exemption afforded by Section 4(2) promulgated under the Securities Act based on the fact that the issuance was to a single individual non involving a public offering.

In January 1999, Cytoclonal Pharmaceutics Inc. granted 10,000 shares of common stock and options to purchase 30,000 shares of its common stock in connection with services rendered in identifying and securing the aforementioned drug

design technology. The securities were granted pursuant to the exemption afforded by Section 4(2) promulgated under the Securities Act based on the fact that the issuance was to a single individual not involving a public offering.

In January 1999, Cytoclonal Pharmaceutics Inc. issued 74,648 shares of series A preferred stock as full payment of the dividend due on the series A preferred stock for the year ended December 31, 1998 to the holders of such preferred stock. Such issuance was pursuant to Section 3(a)(9) promulgated under the Securities Act based on the fact that it involved an exchange by the issuer exclusively with its existing security-holders and no commission or other remuneration was paid or given directly to soliciting such exchange.

In February 1999, Cytoclonal Pharmaceutics Inc. granted 7,000 shares and 3,000 shares of its common stock to two individuals, respectively, in consideration for services rendered to Cytoclonal in identifying drug design technology. The shares of common stock were granted pursuant to the exemption afforded by Section 4(2) promulgated under the Securities Act based on the fact that the issuance was to a single individual not involving a public offering.

In June 1999, Cytoclonal Pharmaceutics Inc. granted options to Gary E. Frashier, a director, under Cytoclonal Pharmaceutics Inc.'s 1996 Stock Option Plan, as amended, to purchase 50,000 shares of common stock at an exercise price equal to $6.00 per share. Cytoclonal Pharmaceuticals Inc. granted such options pursuant to the exemption afforded by Section 4(2) promulgated under the Securities Act based on the fact that the grant was to a single individual and didn't involve a public offering.

ITEM 27. EXHIBITS

3.1	Certificate of Incorporation, as amended (1)
3.2	By-laws (1)
4.1	Specimen certificates representing class C warrants, class D warrants and common stock (1)
4.2	Form of Warrant Agreement with warrant certificates between Cytoclonal Pharmaceutics Inc., Janssen/Meyers Associates, L.P. and American Stock Transfer and Trust Company (1)
4.3	Form of Unit Purchase Option in connection with Cytoclonal Pharmaceutics Inc.'s Initial Public Offering (1)
5.1	Opinion of Morrison Cohen Singer & Weinstein regarding the legality of securities offered
10.1	Form of Consulting Agreement between Cytoclonal Pharmaceutics Inc. and Janssen-Meyers Associates, L.P. (1)
10.2	Employment Agreement dated March 1, 1992 between Cytoclonal Pharmaceutics Inc. and Arthur P. Bollon, Ph.D. (1)
10.3	Employment Agreement dated March 1, 1992 between Cytoclonal Pharmaceutics Inc. and Bruce Meyers, as amended (1)
10.4	Employment Agreement effective November 7, 1995 between Cytoclonal Pharmaceutics Inc. and Daniel Shusterman (1)
10.5	1992 Stock Option Agreement (1)
10.6	Form of Stock Option Agreement (1)
10.7	Lease Agreement dated September 1, 1993 between Cytoclonal Pharmaceutics Inc. and Mutual Benefit Life Insurance Company In Rehabilitation (1)
10.8	Lease Agreement dated October 1, 1991 between Cytoclonal Pharmaceutics Inc. and J.K. and Susie Wadley Research Institute and Blood Bank, as amended (1)
10.9	Purchase Agreement dated October 10, 1991 between Cytoclonal Pharmaceutics Inc. and Wadley Technologies, Inc. ("Wadley")(1)
10.10	Security Agreement dated October 10, 1991 between Cytoclonal Pharmaceutics Inc. and Wadley(1)
10.11	License Agreement dated March 15, 1989 between Cytoclonal Pharmaceutics Inc. and Phillips Petroleum Company, as amended(1)
10.12	License Agreement dated June 10, 1993 between Cytoclonal Pharmaceutics Inc. and Research & Development Institute, Inc. ("The Research & Development Institute at Montana State University"), as amended, relating to the Paclitaxel Fermentation Production System(1)
10.13	Research and Development Agreement effective June 10, 1993 between Cytoclonal Pharmaceutics Inc. and The Research & Development Institute at Montana State University, as amended(1)

10.14	License Agreement dated February 22, 1995 between Cytoclonal

	Pharmaceutics Inc. and The Research & Development Institute at Montana State University, as amended, relating to FTS-2(1)
10.15	Research, Development and License Agreement dated March 26, 1992 between Cytoclonal Pharmaceutics Inc. and Enzon, Inc. ("Enzon"), as amended(1)
10.16	Research, Development and License Agreement dated July 13, 1992 between Cytoclonal Pharmaceutics Inc. and Enzon relating to Cytoclonal Pharmaceutics Inc.'s tumor necrosis factor technology(1)
10.17	Agreement effective June 30, 1992 between Cytoclonal Pharmaceutics Inc. and University of Texas at Dallas ("UTD"), as amended(1)
10.18	Research Agreement effective April 8, 1994 between Cytoclonal Pharmaceutics Inc. and Sloan-Kettering Institute for Cancer Research(1)
10.19	Joint Venture Agreement dated September 17, 1992 between Cytoclonal Pharmaceutics Inc. and Pestka Biomedical Laboratories, Inc. ("Pestka")(1)
10.20	Stock Purchase Agreement dated September 17, 1992 between Cytoclonal Pharmaceutics Inc. and Pestka(1)
10.21	License Agreement dated September 17, 1992 between Cytomune, Inc. and Pestka(1)
10.22	Research and Development Agreement dated September 17, 1992 between Cytomune, Inc. and Pestka(1)
10.23	Marketing Agreement dated as of November 1, 1994 between Helm AG and Cytoclonal Pharmaceutics Inc.(1)
10.24	Extension Agreement with The Research & Development Institute at Montana State University dated June 5, 1995(1)
10.25	Third Amendment to Lease Agreement dated April 30, 1995(1)
10.26	Form of Subordinated Note Extension(1)
10.27	Form of Note Extension(1)
10.28	September 25, 1995 The Research & Development Institute at Montana State University Extension(1)
10.29	October 25, 1995 The Research & Development Institute at Montana State University Extension (1)
10.30	Amendment to License Agreement dated June 10, 1993, as amended, and Research and Development Agreement effective June 10, 1993, as amended, both agreements between Cytoclonal Pharmaceutics Inc. and The Research & Development Institute at Montana State University (2)
10.31	License Agreement No. W960206 effective February 27, 1996 between Cytoclonal Pharmaceutics Inc. and The Regents of the University of California(2)
10.32	License Agreement No. W960207 effective February 27, 1996 between Cytoclonal Pharmaceutics Inc. and The Regents of the University of California(2)
10.33	License Agreement with the Washington State University, dated July 2, 1996(3)*
10.34	Amendment to Agreement, effective June 30, 1992, as amended, between Cytoclonal Pharmaceutics Inc. and the University of Texas at Dallas(3)
10.35	1996 Stock Option Plan and Amendment No. 1 thereto (7)
10.36	Patent License Agreement, dated August 4, 1998, between The Regents of the University of California and Cytoclonal Pharmaceutics Inc. for Peptide Anti-estrogen for Breast Cancer Therapy (5)*
10.37	Master License Agreement, dated as of June 12, 1998, between Cytoclonal Pharmaceutics Inc. and Bristol-Myers Squibb Company (6)*
10.38	Sublicense Agreement, dated May 27, 1998, between Cytoclonal Pharmaceutics Inc. and Bristol-Myers Squibb under The Research & Development Institute, Inc. License Agreement, as amended, dated June 10, 1998 (6)*
10.39	Sublicense Agreement, dated May 19, 1998, between Cytoclonal Pharmaceutics Inc. and Bristol-Myers Squibb Company under the Washington State University Research Foundation License Agreement, dated June 8, 1996 (6)*
10.40	Amended and Restated License Agreement, dated June 3, 1998, between the Washington State University Research Foundation and Cytoclonal Pharmaceutics Inc. (6)*
10.41	Amendment, dated May 27, 1998, to the License Agreement, dated June 10, 1993, between The Research and Development Institute, Inc. and Cytoclonal Pharmaceutics Inc. (6)*
11	Statement re: Computation of per share earnings
21	List of Subsidiaries - None
23.1	Consent of Morrison Cohen Singer & Weinstein, LLP (included in Exhibit 5.1 hereto)
23.2	Consent of Independent Accountants
24.1	Power of Attorney (1)

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* Confidential portions omitted and filed separately with the U.S. Securities Commission pursuant to Rule 24b-2 promulgated under the Securities Exchange Act of 1934, as amended.

(1) Previously filed as an exhibit to Cytoclonal Pharmaceutics Inc.'s Registration Statement on Form SB-2 (File No. 33-91802) and are incorporated by reference herein.

(2) Previously filed as an exhibit to Cytoclonal Pharmaceutics Inc.'s Annual Report on Form 10-KSB (File No. 000- 26078) for the year ended December 31, 1995 and incorporated by reference herein.

(3) Previously filed as an exhibit to Cytoclonal Pharmaceutics Inc.'s Post-Effective Amendment No. 1 to Form SB-2 (File No. 33-91802) and are incorporated by reference herein.

(4) Previously filed as an exhibit to Cytoclonal Pharmaceutics Inc.'s Registration Statement on Form SB-2 (File No. 333-13409) and is incorporated by reference herein.

(5) Previously filed as an exhibit to the Post-Effective Amendment to Cytoclonal Pharmaceutics Inc.'s Registration Statement on Form SB-2 on Form S-3 (File No. 333-13409) and is incorporated by reference herein.

(6) Previously filed as an exhibit to Cytoclonal Pharmaceutics Inc.'s Current Report on Form 8-K (File No. 000-26078) and is incorporated by reference herein.

(7) Previously filed as an exhibit to Cytoclonal Pharmaceutics Inc.'s Annual Report on Form 10-K (File No. 000- 26078) for the year ended

December 31, 1998 and is incorporated by reference herein.

ITEM 28. UNDERTAKINGS

UNDERTAKINGS REQUIRED BY REGULATION S-B, ITEM 512(A).

The undersigned registrant hereby undertakes to:

(1) File, during any period in which it offers or sells securities, a post-effective amendment to this registration statement to:

(i) Include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) Reflect in the prospectus any facts or events which, individually or together, represent a fundamental change in the information within the registration statement; and

(iii) Include any additional or changed material information on the plan of distribution.

(2) For determining liability under the Securities Act, treat each post-effective amendment as a new registration statement of the securities offered, and the offering of the securities at that time to be the initial bona fide offering.

(3) File a post-effective amendment to remove from registration any of the securities that remain unsold at the end of the offering.

UNDERTAKING REQUIRED BY REGULATION S-B, ITEM 512(E).

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers or controlling persons of the registrant pursuant to any arrangement, provision or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

In accordance with the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form SB-2 and authorized this Post-Effective Amendment No. 7 to the Registrant's Registration Statement on Form SB-2 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Dallas, State of Texas on August 5, 1999.

CYTOCLONAL PHARMACEUTICS INC.

By: /s/ Arthur P. Bollon

Arthur P. Bollon, Ph.D., Chairman, President and Chief Executive Officer

In accordance with the requirements of the Securities Act of 1933, as amended, this Post-Effective Amendment No. 7 to the Registrant's Registration Statement on Form SB-2 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Arthur P. Bollon Arthur P. Bollon, Ph.D.	Chairman, President, Chief Executive Officer and Director (principal executive officer)	August 5, 1999
/s/ Daniel Shusterman Daniel Shusterman, J.D.	Vice President Operations, Treasurer and Chief Financial Officer (principal financial and accounting officer)	August 5, 1999
* Ira Gelb, M.D.	Director	
* Irwin C. Gerson	Director	
* Walter M. Lovenberg	Director	
 Gary E. Frashier	Director	
*By: /s/ Arthur P. Bollon Arthur P. Bollon, Attorney-in-Fact		August 5, 1999

EXHIBIT INDEX

EXHIBIT NUMBER	DESCRIPTION
5.1	Opinion of Morrison Cohen Singer & Weinstein, LLP
23.2	Consent of Richard A. Eisner & Company, LLP

[MORRISON COHEN SINGER & WEINSTEIN, LLP LETTERHEAD]

August 5, 1999

Cytoclonal Pharmaceutics Inc.
9000 Harry Hines Boulevard, Suite 621
Dallas, Texas 75235

Re: Post Effective Amendment No. 7 to
Registration Statement on Form SB-2 (File No. 33-91802)

Dear Sirs:

We hereby refer to Post-Effective Amendment No. 7 to the Registration Statement on Form SB-2 (Reg. No. 33- 91802) (the "Registration Statement") filed by you, Cytoclonal Pharmaceutics Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission pursuant to the Securities Act of 1933, as amended, thereby registering an aggregate amount of (i) 6,523,073 shares of common stock, $.01 par value per share (the "Common Stock"), of Cytoclonal Pharmaceutics Inc. and (ii) 2,006,073 Redeemable Class D Warrants (the "Class D Warrants") issued in connection with Cytoclonal Pharmaceutics Inc.'s initial public offering completed in November 1995 (the "IPO"). The 6,523,073 shares of Common Stock referenced in item (i) above consists of (a) 2,006,073 shares of Common Stock issuable upon the exercise of the Class C Warrants (the "Class C Warrants") at an exercise price of $6.50 until November 2, 2000 (the "Expiration Date") issued in connection with the IPO (the "Class C Warrant Shares"), (b) 2,006,073 shares of Common Stock issuable upon the exercise of the Class D Warrants underlying the class C warrants (the "Underlying Class D Warrants") at an exercise price of $8.75 until the Expiration Date (the "Underlying Class D Warrants Shares") and (c) 2,510,927 shares of Common Stock issuable upon the exercise of the Class D Warrants at an exercise price of $8.75 until the Expiration Date (the "Class D Warrant Shares").

We have examined and are familiar with originals, or copies certified or otherwise identified to our satisfaction, of such corporate records of Cytoclonal Pharmaceutics Inc., certificates of officers of Cytoclonal Pharmaceutics Inc. and of public officials and such other documents as we have deemed appropriate as a basis for the opinions expressed below.

Based upon the foregoing, we are of the opinion that:

1. The Underlying Class D Warrants and Class D Warrants have been duly and validly authorized and when sold, paid for and issued as contemplated by the Registration Statement, will be duly and validly issued and fully paid and nonassessable.

2. The Class C Warrant Shares, Underlying Class D Warrant Shares and the Class D Warrant Shares have been duly and validly authorized and when sold, paid for, and issued upon exercise of the respective Warrants in accordance with the terms of such Warrants, will be duly and validly issued and fully paid and nonassessable.

We hereby consent to the use of this opinion in the above-mentioned Registration Statement and to the reference to our name under the heading "Legal Matters" in the Prospectus constituting a part of such Registration Statement.

Very truly yours,

/s/ MORRISON COHEN SINGER & WEINSTEIN, LLP

EXHIBIT 23.2

CONSENT OF INDEPENDENT ACCOUNTANTS

We consent to inclusion in this Post-Effective Amendment No. 7 to the Registration Statement on Form SB-2 of our report dated February 6, 1999 on our audits of the financial statements of Cytoclonal Pharmaceutics Inc., a Delaware corporation, as of December 31, 1998 and 1997 and for each of the years in the three-year period ended December 31, 1998. We also consent to the reference of our firm under the captions "Experts" and "Selected Financial Data" in the Prospectus.

/s/ Richard A. Eisner & Company, LLP

Richard A. Eisner & Company, LLP
New York, New York
August 5, 1999